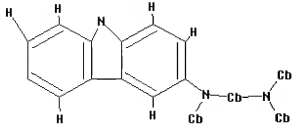
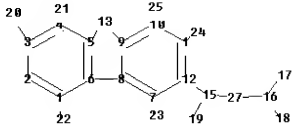
=>
Uploading C:\Program Files\STNEXP\Queries\10583028#2.str





chain nodes :
15 16 17 18 19 20 21 22 23 24 25 27
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13
chain bonds :
1-22 3-20 4-21 7-23 10-25 11-24 12-15 15-19 15-27 16-18 16-17 16-27
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 5-13 6-8 7-8 7-12 8-9 9-10 9-13 10-11 11-12

exact/norm bonds :
5-13 6-8 9-13 12-15
exact bonds :
1-22 3-20 4-21 7-23 10-25 11-24 15-19 15-27 16-18 16-17 16-27
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12

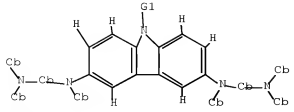
G1:Cb,Ak,C,H

G2:Cb,Hy

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 15:CLASS 16:CLASS 17:Atom 18:Atom 19:Atom 20:CLASS
21:CLASS 22:CLASS
23:CLASS 24:CLASS 25:CLASS 27:Atom
Generic attributes :
17:
Saturation : Unsaturated
18:
Saturation : Unsaturated
19:
Saturation : Unsaturated
27:
Saturation : Unsaturated

L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR



G1 Cb,Ak,C,H
G2 Cb,Hy

Structure attributes must be viewed using STN Express query preparation.

```
=> s l3
L4            6 L3

=> s l3 full
L5            6 L3

=> d ibib abs hitstr 1-6
```

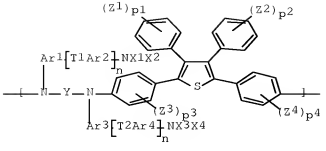
L5 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2008:1282001 CAPLUS Full-text
DOCUMENT NUMBER: 149:494318
TITLE: Sulfonated polymeric compound, its intermediate, and organic electroluminescent device containing the compound
INVENTOR(S): Sekiguchi, Michiru; Togashi, Kazuhiko
PATENT ASSIGNEE(S): Mitsui Chemicals, Inc., Japan
SOURCE: PCT Int. Appl., 165pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008126393	A1	20081023	WO 2008-JP861	20080403

W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: JP 2007-98103 A 20070404
GI



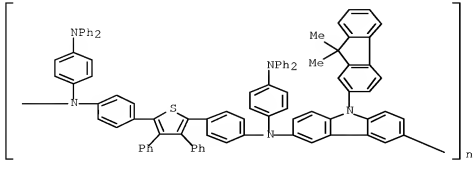
I

AB A sulfonated polymeric compound, and its intermediate, which sulfonated polymeric compound is characterized by having the structure resulting from introduction of a sulfo group in a polymeric compound having, in its polymer chain, ≥1 of the repeating units (I) (wherein each of Z1 to Z4 is a substituent; each of p1 and p2 is an integer of 0 to 5; each of p3 and p4 is an integer of 0 to 4; each of X1 to X4 is a monovalent aromatic group, provided that X1 and X2, and X3 and X4, may be bonded with each other to thereby form a ring; Y is a bivalent aromatic group; each of Ar1 to Ar4 independently is a bivalent aromatic group, provided that the bivalent aromatic group may be an aromatic group resulting from bonding of aromatic groups to each other leading to cyclization; each of T1 and T2 independently is a single bond or a group selected from the group consisting of -(CH2)t-, -CH=CH-, -C≡C-, -O-, -S-, -CQ1Q2-, -CO-, -SO-, -SO2- and -SiE2-; t is an integer of 1 to 20; each of Q1 and Q2 is an alkyl or an aromatic group, provided that these may be bonded with each other to thereby form a ring; E is a hydrogen atom, an alkyl or an aromatic group; and each of m and n is an integer of 0 to 2).

IT 1072155-70-4DP, sulfonated compound
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of solvent-soluble sulfonated polymeric compds. and their intermediates useful for organic electroluminescent devices)

RN 1072155-70-4 CAPLUS

CN Poly[[9-(9,9-dimethyl-9H-fluoren-2-yl)-9H-carbazole-3,6-diyl][[4-(diphenylamino)phenyl]imino]-1,4-phenylene(3,4-diphenyl-2,5-thiophenediyl)-1,4-phenylene[[4-(diphenylamino)phenyl]imino]] (CA INDEX NAME)



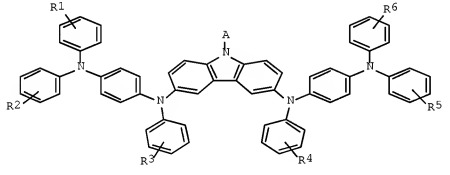
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manuf. of solvent-sol. sulfonated polymeric compds. and their intermediates useful for org. electroluminescent devices

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2007:1237378 CAPLUS Full-text
DOCUMENT NUMBER: 147:494224
TITLE: Carbazole derivatives, their uses, and organic electroluminescent devices using them
INVENTOR(S): Nakayama, Masami; Kato, Hideyuki
PATENT ASSIGNEE(S): Bando Chemical Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 16pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007284411	A	20071101	JP 2006-116940	20060420
PRIORITY APPLN. INFO.:			JP 2006-116940	20060420
OTHER SOURCE(S):	MARPAT 147:494224			

GI



I

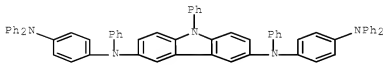
AB Title derivs. I [A = H, halo, C1-20 alkyl, C1-20 alkoxy, (un)substituted aryl, (un)substituted heterocyclyl; R1-R6 = H, C1-20 alkyl, C1-20 alkoxy, di(C1-20 alkyl)amino, (un)substituted aryl, (un)substituted heterocyclyl] are used as hole injecting agents and/or hole transport agents. Also claimed are organic electroluminescent devices having a hole injection layer and/or hole transport layer containing above agents.

IT 884510-65-0P 953812-97-0P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of bis[phenyl(diphenylaminophenyl)amino]carbazoles and organic

electroluminescent devices having hole injection layer and/or hole transport layer containing them)

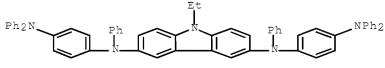
RN 884510-65-0 CAPLUS

CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-N3,N6,9-triphenyl- (CA INDEX NAME)



RN 953812-97-0 CAPLUS

CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-9-ethyl-N3,N6-diphenyl- (CA INDEX NAME)



L5 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2007:175254 CAPLUS Full-text

DOCUMENT NUMBER: 146:238974

TITLE: Arylamine compounds which have resistance to repeated oxidation reactions, and light-emitting elements and electronic devices employing the arylamine compounds

INVENTOR(S): Nakashima, Harue; Kawakami, Sachiko

PATENT ASSIGNEE(S): Semiconductor Energy Laboratory Co., Japan

SOURCE: U.S. Pat. Appl. Publ., 48pp.
CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20070037011	A1	20070215	US 2006-500278	20060808
WO 2007020804	A1	20070222	WO 2006-JP315351	20060727

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,

KG, KZ, MD, RU, TJ, TM

JP 2007070352	A	20070322	JP 2006-217779		20060810
CN 101243038	A	20080813	CN 2006-80029357		20080213
KR 2008034191	A	20080418	KR 2008-705376		20080304
PRIORITY APPLN. INFO.:			JP 2005-234432	A	20050812
			WO 2006-JP315351	W	20060727

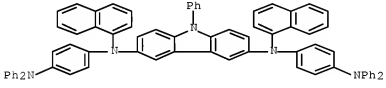
OTHER SOURCE(S): MARPAT 146:238974

AB Secondary arylamine compds. having resistance to repeated oxidation reactions are described by the General Formula NH(Ar1)XN(Ar2)Ar3, wherein Ar1 is one of an aryl group having 7 to 25 C atoms and a heteroaryl group having 7 to 25 C atoms, where each of Ar2 and Ar3 is one of an aryl group having 6 to 25 C atoms and a heteroaryl group having 5 to 9 C atoms, and where X is one of a bivalent aromatic hydrocarbon group having 6 to 25 C atoms and a bivalent heterocyclic group having 5 to 10 C atoms. Light-emitting elements and electronic devices employing the arylamine compds. are also discussed.

IT 884510-67-2P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(arylamine compds. which have resistance to repeated oxidation reactions, and light-emitting elements and electronic devices employing arylamine compds.)

RN 884510-67-2 CAPLUS

CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-N3,N6-di-1-naphthalenyl-9-phenyl- (CA INDEX NAME)



L5 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER:	2006:542713 CAPLUS Full-text
DOCUMENT NUMBER:	145:17408
TITLE:	Light emitting element that includes a mixed carbazole derivative-transition metal oxide hole transport layer
INVENTOR(S):	Nakashima, Harue; Kawakami, Sachiko; Kumaki, Daisuke; Seo, Satoshi; Ikeda, Hisao; Sakata, Junichiro; Iwaki, Yuji
PATENT ASSIGNEE(S):	Semiconductor Energy Laboratory Co., Ltd., Japan
SOURCE:	PCT Int. Appl., 145 pp. CODEN: PIXXD2
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	1
PATENT INFORMATION:	

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006059745	A1	20060608	WO 2005-JP22240	20051128

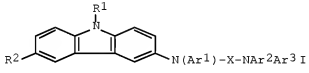
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR,

KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX,
MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE,
SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,
VN, YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
KG, KZ, MD, RU, TJ, TM

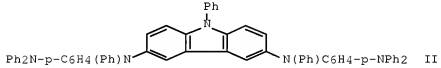
CN 101065858	A	20071031	CN 2005-80040713		20051128
JP 2006303421	A	20061102	JP 2005-345745		20051130
US 20090058267	A1	20090305	US 2006-584308		20060623
KR 2007090215	A	20070905	KR 2007-714544		20070626
PRIORITY APPLN. INFO.:			JP 2004-347518	A	20041130
			JP 2005-84566	A	20050323
			WO 2005-JP22240	W	20051128

OTHER SOURCE(S): MARPAT 145:17408

GI



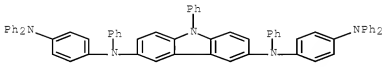
I



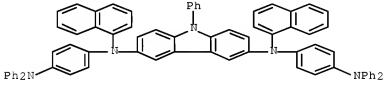
II

AB One object of the present invention is to provide a light emitting element that includes an organic compound and an inorg. compound and has low driving voltage. The light emitting element of the invention includes a plurality of layers between a pair of electrodes, wherein the plurality of layers includes a layer that contains a carbazole derivative represented by a general formula (I; R1 = e.g., H, alkyl, aryl; R2 = H, alkyl, NAr4YNAr5Ar6; Ar1-Ar6 = aryl, heteroaryl; X, Y = bivalent aromatic hydrocarbon or bivalent heterocycle) and an inorg. compound exhibiting an electron accepting property with respect to the carbazole derivative By utilizing this structure, electrons are transported between the carbazole derivative and the inorg. compound and carriers are internally generated, and hence, the driving voltage of the light emitting element can be reduced. Thus, e.g., coupling of 3,6-diiodo-9-phenylcarbazole (preparation given) with PhNHC6H4-p-NPh2 (preparation given) afforded target carbazole II (75% yield). A 50 nm film containing II and molybdenum oxide (1:1.5 molar ratio) exhibited a charge-transfer absorption band (absent in either component of the film taken individually) representing hole generation in II and electron acceptance by molybdenum oxide; consequently, the driving voltage of a light-emitting element can be reduced because of this internal carrier generation.

IT 884510-65-0P 884510-67-2P
RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)
(light emitting element that includes a mixed carbazole derivative-transition metal oxide hole transport layer)
RN 884510-65-0 CAPLUS
CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-N3,N6,9-triphenyl- (CA INDEX NAME)



RN 884510-67-2 CAPLUS
CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-N3,N6-di-1-naphthalenyl-9-phenyl- (CA INDEX NAME)



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2006:380901 CAPLUS Full-text
DOCUMENT NUMBER: 144:422228
TITLE: Carbazole derivative, and light emitting element and light emitting device using the carbazole derivative
INVENTOR(S): Nakashima, Harue; Kawakami, Sachiko; Kumaki, Daisuke
PATENT ASSIGNEE(S): Semiconductor Energy Laboratory Co., Ltd., Japan
SOURCE: PCT Int. Appl., 142 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006043647	A1	20060427	WO 2005-JP19349	20051014
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG,				

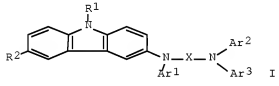
SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

EP 1805140	A1	20070711	EP 2005-795774		20051014
R: DE, FI, FR, GB, NL					
CN 101039909	A	20070919	CN 2005-80035385		20051014
JP 2006298895	A	20061102	JP 2005-303732		20051018
US 20080284328	A1	20081120	US 2006-583028		20060615
PRIORITY APPLN. INFO.:			JP 2004-304225	A	20041019
			JP 2004-333344	A	20041117
			JP 2005-84533	A	20050323
			WO 2005-JP19349	W	20051014

OTHER SOURCE(S): MARPAT 144:422228

GI



AB The title carbazole derivs. are described by the general formula I (R1 = H, C1-6 alkyl, C6-25 aryl, C5-9 heteroaryl, arylalkyl, or C1-7 acyl; R2 = H, C1-6 alkyl, or -N(Ar4)-Y-N(Ar5)Ar6; Ar1-6 = independently selected C6-25 aryl and/or C5-9 heteroaryl; and X and Y = independently selected C6-25 bivalent aromatic hydrocarbon and/or C5-10 bivalent heterocyclic group). Light-emitting elements incorporating the derivs., devices (e.g., displays) incorporating the elements, and electronic apparatus employing the elements, are also described.

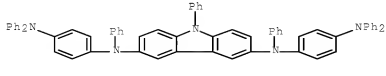
IT 884510-65-0P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(carbazole derivative, and light emitting element and light emitting device using carbazole derivative)

RN 884510-65-0 CAPLUS

CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-N3,N6,9-triphenyl- (CA INDEX NAME)

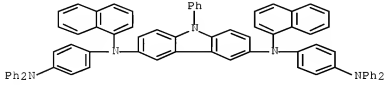


IT 884510-67-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(carbazole derivative, and light emitting element and light emitting device using carbazole derivative)

RN 884510-67-2 CAPLUS

CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-N3,N6-di-1-naphthalenyl-9-phenyl- (CA INDEX NAME)



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2005:1042363 CAPLUS Full-text

DOCUMENT NUMBER: 143:356288

TITLE: Phenyl carbazole derivatives and organic electroluminescent devices using the same

INVENTOR(S): Kim, Ji-Eun; Lee, Jae-Chol; Kim, Kong-Kyeom; Bae, Jae-Soon; Jang, Jun-Gi; Jeon, Sang-Young; Kang, Min-Soo; Cho, Wook-Dong; Jeon, Byung-Sun; Kim, Yeon-Hwan

PATENT ASSIGNEE(S): LG Chem, Ltd., S. Korea

SOURCE: PCT Int. Appl., 126 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

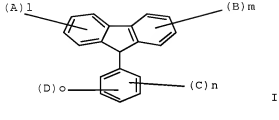
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005090512	A1	20050929	WO 2005-KR794	20050318
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
KR 2005118098	A	20051215	KR 2004-116388	20041230
US 20050225235	A1	20051013	US 2005-83360	20050318
KR 2006044424	A	20060516	KR 2005-22762	20050318
EP 1725632	A1	20061129	EP 2005-733437	20050318
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				

CN 1906268	A	20070131	CN 2005-80001667		20050318
JP 2007520470	T	20070726	JP 2006-546860		20050318
IN 2006KN01638	A	20070511	IN 2006-KN1638		20060613
PRIORITY APPLN. INFO.:			KR 2004-18877	A	20040319
			KR 2004-116388	A	20041230
			WO 2005-KR794	W	20050318

OTHER SOURCE(S): MARPAT 143:356288

GI



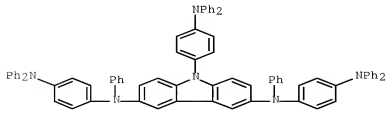
I

AB N-Ph carbazole derivs. are claimed which are described by the general formula I (A = -R1N(R2)-, or -R1N(R2)-Ar-; B = -R3N(R4)-, or -R3N(R4)-Ar-; C = -R5N(R6)-, or -R5N(R6)-Ar-; D = H, -R7N(R8)-, or -R9N(R10)-Ar-; R1-10 = independently selected group each comprising only once or repeatedly ≥2 times, ≥1 of H, C1-20 aliphatic hydrocarbon, aromatic hydrocarbon unsubstituted or substituted with a nitro, nitrile, halogen, alkyl, alkoxy, or amino group, silicon group having an aromatic substituent; heterocyclic aromatic hydrocarbon unsubstituted or substituted with a nitro, nitrile, halogen, alkyl, alkoxy or amino group, thiophene group substituted with a C1-20 hydrocarbon or C6-24 aromatic hydrocarbon; and a boron group substituted with an aromatic hydrocarbon; Ar = an aromatic hydrocarbon unsubstituted or substituted with a nitro, nitrile, halogen, alkyl, alkoxy, or amino group; and l ≥ 1; m ≥ 1; n ≥ 1; and o ≥ 0; with the restriction that the compound represented by formula I wherein R1-6 = H simultaneously and D also = H is excluded). Organic electroluminescent devices using the compds., especially in hole-injecting, hole-transporting, or light-emitting layers, are also described.

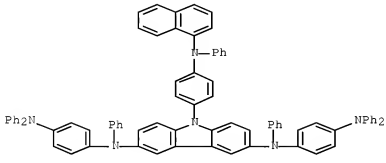
IT 865596-39-0 865596-40-3
RL: DEV (Device component use); USES (Uses)
(Ph carbazole derivs. and organic electroluminescent devices using them)

RN 865596-39-0 CAPLUS

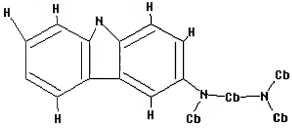
CN 9H-Carbazole-3,6-diamine, N3,N6,9-tris[4-(diphenylamino)phenyl]-N3,N6-diphenyl- (CA INDEX NAME)

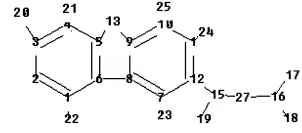


RN 865596-40-3 CAPLUS
CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-9-[4-(1-naphthalenylphenylamino)phenyl]-N3,N6-diphenyl- (CA INDEX NAME)



=>
Uploading C:\Program Files\STNEXP\Queries\10583028#2.str





chain nodes :
15 16 17 18 19 20 21 22 23 24 25 27
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13
chain bonds :
1-22 3-20 4-21 7-23 10-25 11-24 12-15 15-19 15-27 16-18 16-17 16-27
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 5-13 6-8 7-8 7-12 8-9 9-10 9-13 10-11 11-12

exact/norm bonds :
5-13 6-8 9-13 12-15
exact bonds :
1-22 3-20 4-21 7-23 10-25 11-24 15-19 15-27 16-18 16-17 16-27
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12

G1:Cb,Ak,C,H

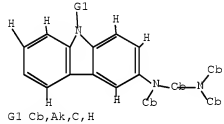
G2:Cb,Hy

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 15:CLASS 16:CLASS 17:Atom 18:Atom 19:Atom 20:CLASS
21:CLASS 22:CLASS
23:CLASS 24:CLASS 25:CLASS 27:Atom
Generic attributes :

17:
Saturation : Unsaturated
18:
Saturation : Unsaturated
19:
Saturation : Unsaturated
27:
Saturation : Unsaturated

L6 STRUCTURE UPLOADED

=> d l6
L6 HAS NO ANSWERS
L6 STR



G1 Cb,Ak,C,H
G2 Cb,Hy

Structure attributes must be viewed using STN Express query preparation.

=> s l6
SAMPLE SEARCH INITIATED 18:10:58 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 5979 TO ITERATE

33.5% PROCESSED 2000 ITERATIONS 0 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 114944 TO 124216
PROJECTED ANSWERS: 0 TO 0

L7 0 SEA SSS SAM L6

=> s l6 full
FULL SEARCH INITIATED 18:11:11 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 121554 TO ITERATE

100.0% PROCESSED 121554 ITERATIONS 56 ANSWERS
SEARCH TIME: 00.00.05

L8 56 SEA SSS FUL L6

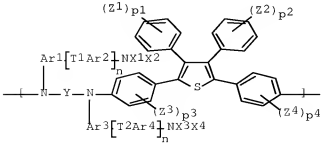
```
=> s l8
L9          14 L8

=> s l8 full
L10         14 L8

=> d ibib abs hitstr 1-14

L10  ANSWER 1 OF 14  CAPLUS  COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER:         2008:1282001  CAPLUS  Full-text
DOCUMENT NUMBER:          149:494318
TITLE:                    Sulfonated polymeric compound, its intermediate, and
                          organic electroluminescent device containing the
                          compound
INVENTOR(S):              Sekiguchi, Michiru; Togashi, Kazuhiko
PATENT ASSIGNEE(S):       Mitsui Chemicals, Inc., Japan
SOURCE:                   PCT Int. Appl., 165pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 Japanese
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     --------------      ----   --------    -------------------    --------
     WO 2008126393        A1    20081023    WO 2008-JP861          20080403
         W:  AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
             CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES,
             FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE,
             KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,
             ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH,
             PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM,
             TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU,
             IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK,
             TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
             TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,
             AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
PRIORITY APPLN. INFO.:                       JP 2007-98103       A  20070404
GI
```



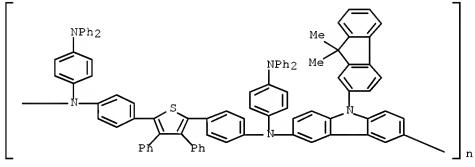
I

AB A sulfonated polymeric compound, and its intermediate, which sulfonated polymeric compound is characterized by having the structure resulting from introduction of a sulfo group in a polymeric compound having, in its polymer chain, ≥1 of the repeating units (I) (wherein each of Z1 to Z4 is a substituent; each of p1 and p2 is an integer of 0 to 5; each of p3 and p4 is an integer of 0 to 4; each of X1 to X4 is a monovalent aromatic group, provided that X1 and X2, and X3 and X4, may be bonded with each other to thereby form a ring; Y is a bivalent aromatic group; each of Ar1 to Ar4 independently is a bivalent aromatic group, provided that the bivalent aromatic group may be an aromatic group resulting from bonding of aromatic groups to each other leading to cyclization; each of T1 and T2 independently is a single bond or a group selected from the group consisting of -(CH2)t-, -CH=CH-, -C≡C-, -O-, -S-, -CQ1Q2-, -CO-, -SO-, -SO2- and -SiE2-; t is an integer of 1 to 20; each of Q1 and Q2 is an alkyl or an aromatic group, provided that these may be bonded with each other to thereby form a ring; E is a hydrogen atom, an alkyl or an aromatic group; and each of m and n is an integer of 0 to 2).

IT 1072155-70-4DP, sulfonated compound
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of solvent-soluble sulfonated polymeric compds. and their intermediates useful for organic electroluminescent devices)

RN 1072155-70-4 CAPLUS

CN Poly[[9-(9,9-dimethyl-9H-fluoren-2-yl)-9H-carbazole-3,6-diyl][[4-(diphenylamino)phenyl]imino]-1,4-phenylene(3,4-diphenyl-2,5-thiophenediyl)-1,4-phenylene[[4-(diphenylamino)phenyl]imino]] (CA INDEX NAME)



RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manuf. of solvent-sol. sulfonated polymeric compds. and their intermediates useful for org. electroluminescent devices

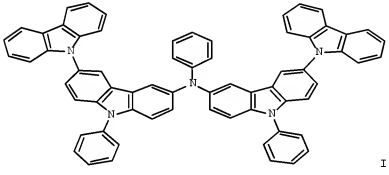
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 2 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2008:608032 CAPLUS Full-text
DOCUMENT NUMBER: 148:572612
TITLE: Novel carbazole derivative and use thereof
INVENTOR(S): Nakayama, Masami; Tsubaki, Tomoyuki
PATENT ASSIGNEE(S): Bando Chemical Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 88pp.

CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008059943	A1	20080522	WO 2007-JP72246	20071109
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
JP 2008127290	A	20080605	JP 2006-310825	20061116
PRIORITY APPLN. INFO.:			JP 2006-310825 A	20061116

OTHER SOURCE(S): MARPAT 148:572612
GI



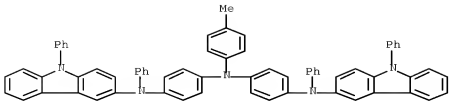
I

AB The carbazole derivative, having ≥2 carbazole structures in the mol., for example, I, is prepared The carbazole derivative can form a stable amorphous film by itself at a temperature equal to or higher than ambient temperature, has a high glass transition temperature, and can be suitably used as an organic electronic functional material, such as an electroluminescent material element.

IT 1026033-63-5P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of heat-resistant carbazole derivs. for electroluminescent materials)

RN 1026033-63-5 CAPLUS

CN 1,4-Benzenediamine, N1-(4-methylphenyl)-N4-phenyl-N4-(9-phenyl-9H-carbazol-3-yl)-N1-[4-[phenyl(9-phenyl-9H-carbazol-3-yl)amino]phenyl]- (CA INDEX NAME)



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 3 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2008:91000 CAPLUS Full-text
DOCUMENT NUMBER: 148:178962
TITLE: Carbazole-containing amine compound and use thereof
INVENTOR(S): Yagi, Tadao; Tanaka, Hiroaki; Oryu, Yoshitake; Toba, Yasumasa; Suda, Yasumasa; Tamano, Michiko
PATENT ASSIGNEE(S): Toyo Ink Manufacturing Co., Ltd., Japan
SOURCE: PCT Int. Appl., 174pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

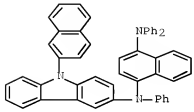
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008010377	A1	20080124	WO 2007-JP62348	20070619
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
JP 2008044923	A	20080228	JP 2006-250332	20060915
PRIORITY APPLN. INFO.:			JP 2006-199927 A	20060721
			JP 2006-250332 A	20060915
			JP 2005-294504 A	20051007

OTHER SOURCE(S): MARPAT 148:178962

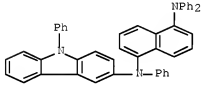
AB Disclosed is a carbazole-containing amine compound which has a high Tg value and is hardly crystallized and therefore probably forms a stable thin film, and which can show excellent properties such as an ability of being operated at a low voltage and long service life when used as a material for an organic EL element.

IT 1002763-08-7P 1002763-12-3P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(hight Tg carbazole-containing amine compound used as charge transport material in electroluminescent device)

RN 1002763-08-7 CAPLUS
CN 1,4-Naphthalenediamine, N1-[9-(2-naphthalenyl)-9H-carbazol-3-yl]-N1,N4,N4-triphenyl- (CA INDEX NAME)



RN 1002763-12-3 CAPLUS
CN 1,5-Naphthalenediamine, N1,N1,N5-triphenyl-N5-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)

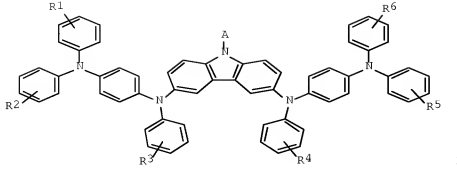


REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 4 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2007:1237378 CAPLUS Full-text
DOCUMENT NUMBER: 147:494224
TITLE: Carbazole derivatives, their uses, and organic electroluminescent devices using them
INVENTOR(S): Nakayama, Masami; Kato, Hideyuki
PATENT ASSIGNEE(S): Bando Chemical Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 16pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007284411	A	20071101	JP 2006-116940	20060420
PRIORITY APPLN. INFO.:			JP 2006-116940	20060420

OTHER SOURCE(S): MARPAT 147:494224
GI



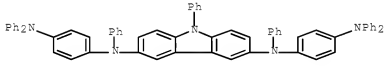
I

AB Title derivs. I [A = H, halo, C1-20 alkyl, C1-20 alkoxy, (un)substituted aryl, (un)substituted heterocyclyl; R1-R6 = H, C1-20 alkyl, C1-20 alkoxy, di(C1-20 alkyl)amino, (un)substituted aryl, (un)substituted heterocyclyl] are used as hole injecting agents and/or hole transport agents. Also claimed are organic electroluminescent devices having a hole injection layer and/or hole transport layer containing above agents.

IT 884510-65-0P 953812-97-0P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of bis[phenyl(diphenylaminophenyl)amino]carbazoles and organic electroluminescent devices having hole injection layer and/or hole transport layer containing them)

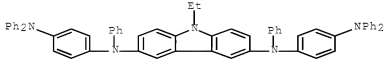
RN 884510-65-0 CAPLUS

CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-N3,N6,9-triphenyl- (CA INDEX NAME)



RN 953812-97-0 CAPLUS

CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-9-ethyl-N3,N6-diphenyl- (CA INDEX NAME)



L10 ANSWER 5 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2007:1118739 CAPLUS Full-text

DOCUMENT NUMBER: 147:436460

TITLE: Organic light emitting device and flat panel display

device comprising the same

INVENTOR(S): Hwang, Seok--Hwan; Kim, Young-Kook; Kwak, Yoon-Hyun; Lee, Jong-Hyuk; Lee, Kwan-Hee; Chun, Min-Seung

PATENT ASSIGNEE(S): S. Korea

SOURCE: U.S. Pat. Appl. Publ., 49pp., Cont.-in-part of U.S. Ser. No. 286,421.
CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 5

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20070231503	A1	20071004	US 2007-806039	20070529
KR 20050097670	A	20051010	KR 2004-22877	20040402
KR 20060055755	A	20060118	KR 2004-54700	20040714
KR 20060059613	A	20060602	KR 2004-98747	20041129
KR 787425	B1	20071226		
US 20050221124	A1	20051006	US 2005-97182	20050404
US 20060020136	A1	20060126	US 2005-181706	20050713
US 7431997	B2	20081007		
US 20060115680	A1	20060601	US 2005-286421	20051125
KR 2007114562	A	20071204	KR 2006-48306	20060529
KR 846586	B1	20080716		
JP 2007318101	A	20071206	JP 2007-110746	20070419
CN 101083308	A	20071205	CN 2007-10109285	20070529
EP 1862524	A1	20071205	EP 2007-109066	20070529
EP 1862524	B1	20090408		
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, YU				
KR 2007114669	A	20071204	KR 2007-76436	20070730
KR 846608	B1	20080716		

PRIORITY APPLN. INFO.:

KR 2004-22877	A	20040402
KR 2004-54700	A	20040714
KR 2004-98747	A	20041129
US 2005-97182	A2	20050404
US 2005-181706	A2	20050713
US 2005-286421	A2	20051125
KR 2006-48306	A	20060529

OTHER SOURCE(S): MARPAT 147:436460

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

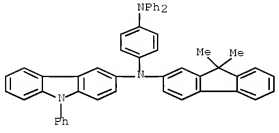
AB An organic light emitting device is described comprising a substrate; a first and a second electrode; one of the electrodes being a reflective electrode, the other being a (semi)transparent; and an organic layer interposed between the electrodes, the organic layer comprising an emission layer, and comprising a compound represented by general formula I, II, and III, where X = C1-C30 alkylene or alkenylene, C6-C30 arylene, C2-C30 heteroarylene, C2-C30 hetero ring; R1-R8 = (each independently) H, C1-C30 alkyl, C1-C30 alkoxy, C6-C30 aryl, C6-C30 aryloxy, C2-C30 hetero ring, C5-C30 polycyclic condensed ring, hydroxy, cyano, amino (R1, R2, R3 may bound together to form ring, R4, R5 may bound together to form a ring, two or more of R6,R7, R8 may bound together to form carbon ring); Ar1, Ar2, Ar3 = (each independently) C6-C30 aryl, C2-C30

heteroaryl; Y = (independently) C1-C30 alkyl, C6-C30 aryl, C2-C30 hetero ring; n (independently) = integer of 0-5. A flat panel display device comprising the organic light emitting device is also described.

IT 951407-79-7
RL: TEM (Technical or engineered material use); USES (Uses)
(organic light emitting device using novel organic materials and flat panel display device comprising the same)

RN 951407-79-7 CAPLUS

CN 1,4-Benzenediamine, N1-(9,9-dimethyl-9H-fluoren-2-yl)-N4,N4-diphenyl-N1-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



L10 ANSWER 6 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2007:619691 CAPLUS Full-text

DOCUMENT NUMBER: 147:41962

TITLE: Diaminoarylene compound having carbazolyl group and use thereof for electroluminescent element

INVENTOR(S): Yagi, Tadao; Suda, Yasumasa; Oryu, Yoshitake; Tanaka, Hiroaki; Toba, Yasumasa

PATENT ASSIGNEE(S): Toyo Ink Manufacturing Co., Ltd., Japan

SOURCE: PCT Int. Appl., 193pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007063986	A1	20070607	WO 2006-JP324094	20061201
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
JP 4211869	B2	20090121	JP 2007-528500	20061201
KR 2008080513	A	20080904	KR 2008-713038	20080530
CN 101321728	A	20081210	CN 2006-80045215	20080602

PRIORITY APPLN. INFO.: JP 2005-349151 A 20051202

JP 2006-65680	A	20060310
JP 2006-205844	A	20060728
JP 2006-212941	A	20060804
WO 2006-JP324094	W	20061201

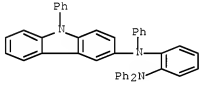
OTHER SOURCE(S): MARPAT 147:41962

AB Disclosed is a diaminoarylene compound having a carbazolyl group, which is represented by the general formula (Ar3)(Ar1)N-X-N(Ar2)(Ar4) [wherein Ar1 to Ar4 independently represent a univalent aromatic hydrocarbyl having 6 to 18 carbon atoms which may has a substituent, a univalent heterocyclic group having 2 to 18 carbon atoms which may have a substituent, or a 3-carbazolyl-derived group, provided that at least one of Ar1 to Ar4 represents a 3-carbazolyl-derived group; and X represents a phenanthrene-diyl-derived group which may have a substituent, an o-phenylene-derived group which may have a substituent, or an m-phenylene-derived group which may have a substituent]. Also disclosed is a material for an organic electroluminescence element, which comprises the diaminoarylene compound Further disclosed is an electroluminescence element using the material.

IT 938510-95-3P 938510-99-7P 938511-39-8P
938511-40-1P 938511-41-2P 938511-42-3P
938511-44-5P 938511-45-6P 938511-46-7P
938511-47-8P 938511-48-9P 938511-49-0P
938511-50-3P 938511-51-4P 938511-52-5P
938511-53-6P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(diaminoarylene compound having carbazolyl group and use thereof for electroluminescent element)

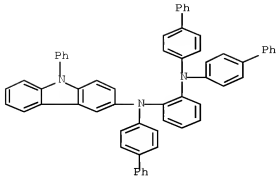
RN 938510-95-3 CAPLUS

CN 1,2-Benzenediamine, N1,N1,N2-triphenyl-N2-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)

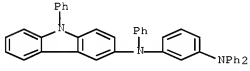


RN 938510-99-7 CAPLUS

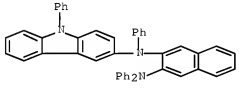
CN 1,2-Benzenediamine, N1,N1,N2-tris([1,1'-biphenyl]-4-yl)-N2-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



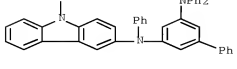
RN 938511-39-8 CAPLUS
CN 1,3-Benzenediamine, N1,N1,N3-triphenyl-N3-(9-phenyl-9H-carbazol-3-yl)-
(CA INDEX NAME)



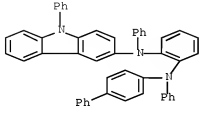
RN 938511-40-1 CAPLUS
CN 2,3-Naphthalenediamine, N2,N2,N3-triphenyl-N3-(9-phenyl-9H-carbazol-3-yl)-
(CA INDEX NAME)



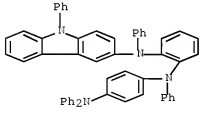
RN 938511-41-2 CAPLUS
CN [1,1'-Biphenyl]-3,5-diamine, N3,N3,N5-triphenyl-N5-(9-phenyl-9H-carbazol-3-
yl)- (CA INDEX NAME)



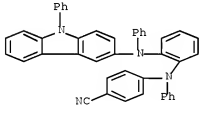
RN 938511-42-3 CAPLUS
CN 1,2-Benzenediamine, N1-[1,1'-biphenyl]-4-yl-N1,N2-diphenyl-N2-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



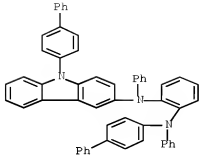
RN 938511-44-5 CAPLUS
CN 1,2-Benzenediamine, N1-[4-(diphenylamino)phenyl]-N1,N2-diphenyl-N2-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



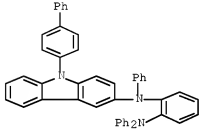
RN 938511-45-6 CAPLUS
CN Benzonitrile, 4-[phenyl[2-[phenyl(9-phenyl-9H-carbazol-3-yl)amino]phenyl]amino]- (CA INDEX NAME)



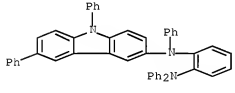
RN 938511-46-7 CAPLUS
CN 1,2-Benzenediamine, N1-[1,1'-biphenyl]-4-yl-N2-(9-[1,1'-biphenyl]-4-yl-9H-carbazol-3-yl)-N1,N2-diphenyl- (CA INDEX NAME)



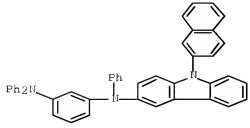
RN 938511-47-8 CAPLUS
CN 1,2-Benzenediamine, N1-(9-[1,1'-biphenyl]-4-yl-9H-carbazol-3-yl)-N1,N2,N2-triphenyl- (CA INDEX NAME)



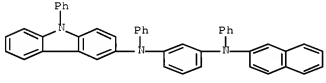
RN 938511-48-9 CAPLUS
CN 1,2-Benzenediamine, N1-(6,9-diphenyl-9H-carbazol-3-yl)-N1,N2,N2-triphenyl- (CA INDEX NAME)



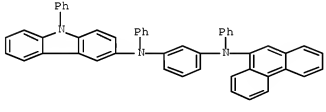
RN 938511-49-0 CAPLUS
CN 1,3-Benzenediamine, N1-[9-(2-naphthalenyl)-9H-carbazol-3-yl]-N1,N3,N3-triphenyl- (CA INDEX NAME)



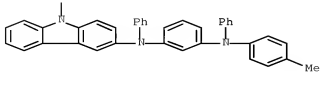
RN 938511-50-3 CAPLUS
CN 1,3-Benzenediamine, N1-2-naphthalenyl-N1,N3-diphenyl-N3-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



RN 938511-51-4 CAPLUS
CN 1,3-Benzenediamine, N1-9-phenanthrenyl-N1,N3-diphenyl-N3-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)

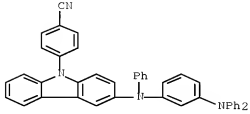


RN 938511-52-5 CAPLUS
CN 1,3-Benzenediamine, N1-(4-methylphenyl)-N1,N3-diphenyl-N3-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



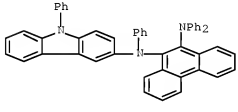
RN 938511-53-6 CAPLUS

CN Benzonitrile, 4-[3-[[3-(diphenylamino)phenyl]phenylamino]-9H-carbazol-9-yl]- (CA INDEX NAME)

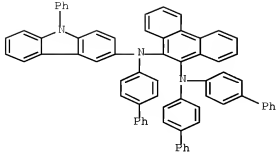


IT 938510-47-5 938510-49-7 938510-76-0
938510-77-1 938510-79-3 938510-81-7
938510-82-8 938510-83-9 938510-84-0
938510-85-1 938510-86-2 938510-87-3
938510-88-4 938510-89-5 938510-90-8
938510-91-9 938510-92-0 938510-93-1
938511-74-1 938511-75-2 938511-76-3
938511-77-4 938511-78-5
RL: TEM (Technical or engineered material use); USES (Uses)
(diaminoarylene compound having carbazolyl group and use thereof for electroluminescent element)

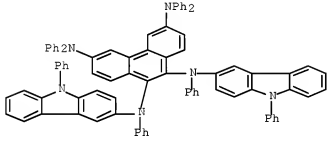
RN 938510-47-5 CAPLUS
CN 9,10-Phenanthrenediamine, N9,N9,N10-triphenyl-N10-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



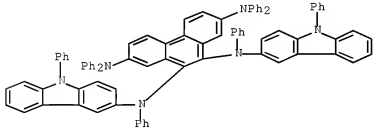
RN 938510-49-7 CAPLUS
CN 9,10-Phenanthrenediamine, N9,N9,N10-tris([1,1'-biphenyl]-4-yl)-N10-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



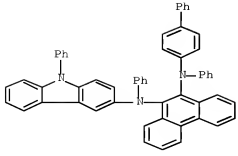
RN 938510-76-0 CAPLUS
CN 3,6,9,10-Phenanthrenetetramine, N3,N3,N6,N6,N9,N10-hexaphenyl-N9,N10-bis(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



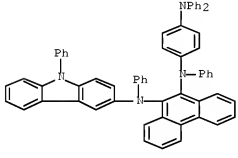
RN 938510-77-1 CAPLUS
CN 2,7,9,10-Phenanthrenetetramine, N2,N2,N7,N7,N9,N10-hexaphenyl-N9,N10-bis(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



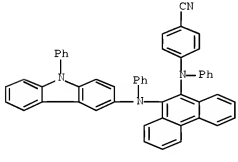
RN 938510-79-3 CAPLUS
CN 9,10-Phenanthrenediamine, N9-[1,1'-biphenyl]-4-yl-N9,N10-diphenyl-N10-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



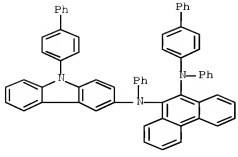
RN 938510-81-7 CAPLUS
CN 9,10-Phenanthrenediamine, N9-[4-(diphenylamino)phenyl]-N9,N10-diphenyl-N10-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



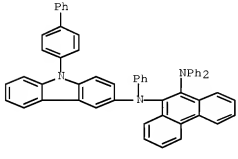
RN 938510-82-8 CAPLUS
CN Benzonitrile, 4-[phenyl[10-[phenyl(9-phenyl-9H-carbazol-3-yl)amino]-9-phenanthrenyl]amino]- (CA INDEX NAME)



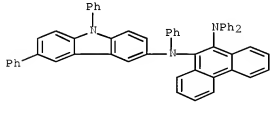
RN 938510-83-9 CAPLUS
CN 9,10-Phenanthrenediamine, N9-[1,1'-biphenyl]-4-yl-N10-(9-[1,1'-biphenyl]-4-yl-9H-carbazol-3-yl)-N9,N10-diphenyl- (CA INDEX NAME)



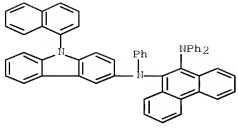
RN 938510-84-0 CAPLUS
CN 9,10-Phenanthrenediamine, N9-(9-[1,1'-biphenyl]-4-yl-9H-carbazol-3-yl)-N9,N10,N10-triphenyl- (CA INDEX NAME)



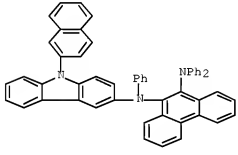
RN 938510-85-1 CAPLUS
CN 9,10-Phenanthrenediamine, N9-(6,9-diphenyl-9H-carbazol-3-yl)-N9,N10,N10-triphenyl- (CA INDEX NAME)



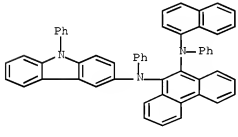
RN 938510-86-2 CAPLUS
CN 9,10-Phenanthrenediamine, N9-[9-(1-naphthalenyl)-9H-carbazol-3-yl]-N9,N10,N10-triphenyl- (CA INDEX NAME)



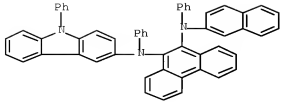
RN 938510-87-3 CAPLUS
CN 9,10-Phenanthrenediamine, N9-[9-(2-naphthalenyl)-9H-carbazol-3-yl]-N9,N10,N10-triphenyl- (CA INDEX NAME)



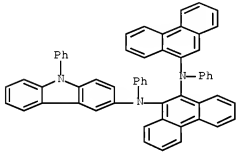
RN 938510-88-4 CAPLUS
CN 9,10-Phenanthrenediamine, N9-1-naphthalenyl-N9,N10-diphenyl-N10-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



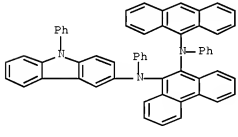
RN 938510-89-5 CAPLUS
CN 9,10-Phenanthrenediamine, N9-2-naphthalenyl-N9,N10-diphenyl-N10-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



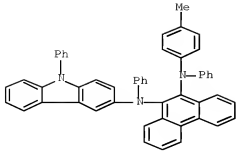
RN 938510-90-8 CAPLUS
CN 9,10-Phenanthrenediamine, N9-9-phenanthrenyl-N9,N10-diphenyl-N10-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



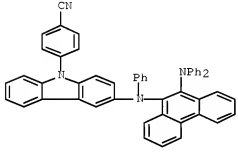
RN 938510-91-9 CAPLUS
CN 9,10-Phenanthrenediamine, N9-9-anthracenyl-N9,N10-diphenyl-N10-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



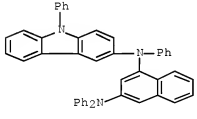
RN 938510-92-0 CAPLUS
CN 9,10-Phenanthrenediamine, N9-(4-methylphenyl)-N9,N10-diphenyl-N10-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



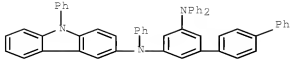
RN 938510-93-1 CAPLUS
CN Benzonitrile, 4-[3-[[10-(diphenylamino)-9-phenanthrenyl]phenylamino]-9H-carbazol-9-yl]- (CA INDEX NAME)



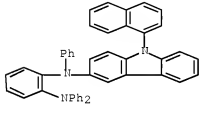
RN 938511-74-1 CAPLUS
CN 1,3-Naphthalenediamine, N1,N3,N3-triphenyl-N1-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



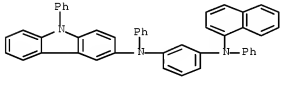
RN 938511-75-2 CAPLUS
CN [1,1':4',1''-Terphenyl]-3,5-diamine, N3,N3,N5-triphenyl-N5-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



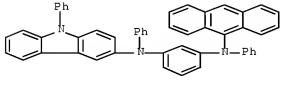
RN 938511-76-3 CAPLUS
CN 1,2-Benzenediamine, N1-[9-(1-naphthalenyl)-9H-carbazol-3-yl]-N1,N2,N2-triphenyl- (CA INDEX NAME)



RN 938511-77-4 CAPLUS
CN 1,3-Benzenediamine, N1-1-naphthalenyl-N1,N3-diphenyl-N3-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



RN 938511-78-5 CAPLUS
CN 1,3-Benzenediamine, N1-9-anthracenyl-N1,N3-diphenyl-N3-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 7 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2007:175254 CAPLUS Full-text
DOCUMENT NUMBER: 146:238974

TITLE: Arylamine compounds which have resistance to repeated oxidation reactions, and light-emitting elements and electronic devices employing the arylamine compounds

INVENTOR(S): Nakashima, Harue; Kawakami, Sachiko

PATENT ASSIGNEE(S): Semiconductor Energy Laboratory Co., Japan

SOURCE: U.S. Pat. Appl. Publ., 48pp.
CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20070037011	A1	20070215	US 2006-500278	20060808
WO 2007020804	A1	20070222	WO 2006-JP315351	20060727
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
JP 2007070352	A	20070322	JP 2006-217779	20060810
CN 101243038	A	20080813	CN 2006-80029357	20080213
KR 2008034191	A	20080418	KR 2008-705376	20080304
PRIORITY APPLN. INFO.:			JP 2005-234432 A	20050812
			WO 2006-JP315351 W	20060727

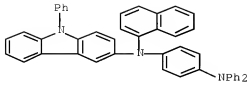
OTHER SOURCE(S): MARPAT 146:238974

AB Secondary arylamine compds. having resistance to repeated oxidation reactions are described by the General Formula NH(Ar1)XN(Ar2)Ar3, wherein Ar1 is one of an aryl group having 7 to 25 C atoms and a heteroaryl group having 7 to 25 C atoms, where each of Ar2 and Ar3 is one of an aryl group having 6 to 25 C atoms and a heteroaryl group having 5 to 9 C atoms, and where X is one of a bivalent aromatic hydrocarbon group having 6 to 25 C atoms and a bivalent heterocyclic group having 5 to 10 C atoms. Light-emitting elements and electronic devices employing the arylamine compds. are also discussed.

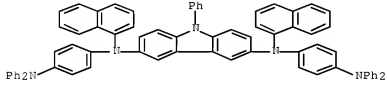
IT 884510-66-1P 884510-67-2P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(arylamine compds. which have resistance to repeated oxidation reactions, and light-emitting elements and electronic devices employing arylamine compds.)

RN 884510-66-1 CAPLUS

CN 1,4-Benzenediamine, N1-1-naphthalenyl-N4,N4-diphenyl-N1-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



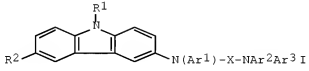
RN 884510-67-2 CAPLUS
CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-N3,N6-di-1-naphthalenyl-9-phenyl- (CA INDEX NAME)

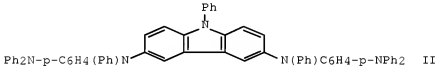


L10 ANSWER 8 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2006:542713 CAPLUS Full-text
DOCUMENT NUMBER: 145:17408
TITLE: Light emitting element that includes a mixed carbazole derivative-transition metal oxide hole transport layer
INVENTOR(S): Nakashima, Harue; Kawakami, Sachiko; Kumaki, Daisuke; Seo, Satoshi; Ikeda, Hisao; Sakata, Junichiro; Iwaki, Yuji
PATENT ASSIGNEE(S): Semiconductor Energy Laboratory Co., Ltd., Japan
SOURCE: PCT Int. Appl., 145 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006059745	A1	20060608	WO 2005-JP22240	20051128
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
CN 101065858	A	20071031	CN 2005-80040713	20051128
JP 2006303421	A	20061102	JP 2005-345745	20051130

US 20090058267 A1 20090305 US 2006-584308 20060623
KR 2007090215 A 20070905 KR 2007-714544 20070626
PRIORITY APPLN. INFO.: JP 2004-347518 A 20041130
JP 2005-84566 A 20050323
WO 2005-JP22240 W 20051128
OTHER SOURCE(S): MARPAT 145:17408
GI





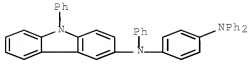
II

AB One object of the present invention is to provide a light emitting element that includes an organic compound and an inorg. compound and has low driving voltage. The light emitting element of the invention includes a plurality of layers between a pair of electrodes, wherein the plurality of layers includes a layer that contains a carbazole derivative represented by a general formula (I; R1 = e.g., H, alkyl, aryl; R2 = H, alkyl, NAr4YNAr5Ar6; Ar1-Ar6 = aryl, heteroaryl; X, Y = bivalent aromatic hydrocarbon or bivalent heterocycle) and an inorg. compound exhibiting an electron accepting property with respect to the carbazole derivative By utilizing this structure, electrons are transported between the carbazole derivative and the inorg. compound and carriers are internally generated, and hence, the driving voltage of the light emitting element can be reduced. Thus, e.g., coupling of 3,6-diiodo-9-phenylcarbazole (preparation given) with PhNHC6H4-p-NPh2 (preparation given) afforded target carbazole II (75% yield). A 50 nm film containing II and molybdenum oxide (1:1.5 molar ratio) exhibited a charge-transfer absorption band (absent in either component of the film taken individually) representing hole generation in II and electron acceptance by molybdenum oxide; consequently, the driving voltage of a light-emitting element can be reduced because of this internal carrier generation.

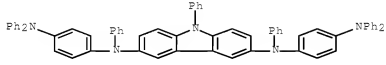
IT 884510-64-9P 884510-65-0P 884510-66-1P
884510-67-2P
RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)
(light emitting element that includes a mixed carbazole derivative-transition metal oxide hole transport layer)

RN 884510-64-9 CAPLUS

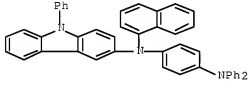
CN 1,4-Benzenediamine, N1,N1,N4-triphenyl-N4-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



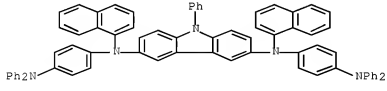
RN 884510-65-0 CAPLUS
CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-N3,N6,9-triphenyl- (CA INDEX NAME)



RN 884510-66-1 CAPLUS
CN 1,4-Benzenediamine, N1-1-naphthalenyl-N4,N4-diphenyl-N1-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



RN 884510-67-2 CAPLUS
CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-N3,N6-di-1-naphthalenyl-9-phenyl- (CA INDEX NAME)



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2006:380901 CAPLUS Full-text
DOCUMENT NUMBER: 144:422228

TITLE: Carbazole derivative, and light emitting element and light emitting device using the carbazole derivative

INVENTOR(S): Nakashima, Harue; Kawakami, Sachiko; Kumaki, Daisuke

PATENT ASSIGNEE(S): Semiconductor Energy Laboratory Co., Ltd., Japan

SOURCE: PCT Int. Appl., 142 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

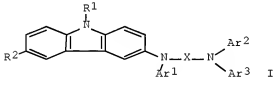
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006043647	A1	20060427	WO 2005-JP19349	20051014
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
EP 1805140	A1	20070711	EP 2005-795774	20051014
R: DE, FI, FR, GB, NL				
CN 101039909	A	20070919	CN 2005-80035385	20051014
JP 2006298895	A	20061102	JP 2005-303732	20051018
US 20080284328	A1	20081120	US 2006-583028	20060615
PRIORITY APPLN. INFO.:			JP 2004-304225 A	20041019
			JP 2004-333344 A	20041117
			JP 2005-84533 A	20050323
			WO 2005-JP19349 W	20051014

OTHER SOURCE(S): MARPAT 144:422228

GI



I

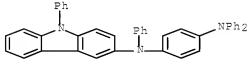
AB The title carbazole derivs. are described by the general formula I (R1 = H, C1-6 alkyl, C6-25 aryl, C5-9 heteroaryl, arylalkyl, or C1-7 acyl; R2 = H, C1-6 alkyl, or -N(Ar4)-Y-N(Ar5)Ar6; Ar1-6 = independently selected C6-25 aryl and/or C5-9 heteroaryl; and X and Y = independently selected C6-25 bivalent aromatic hydrocarbon and/or C5-10 bivalent heterocyclic group). Light-emitting elements incorporating the derivs., devices (e.g., displays) incorporating the elements, and electronic apparatus employing the elements, are also described.

IT 884510-64-9P 884510-65-0P 884510-66-1P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(carbazole derivative, and light emitting element and light emitting device using carbazole derivative)

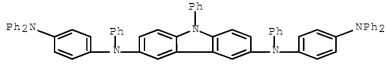
RN 884510-64-9 CAPLUS

CN 1,4-Benzenediamine, N1,N1,N4-triphenyl-N4-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



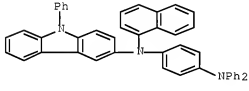
RN 884510-65-0 CAPLUS

CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-N3,N6,9-triphenyl- (CA INDEX NAME)



RN 884510-66-1 CAPLUS

CN 1,4-Benzenediamine, N1-1-naphthalenyl-N4,N4-diphenyl-N1-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)

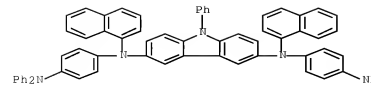


IT 884510-67-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(carbazole derivative, and light emitting element and light emitting device using carbazole derivative)

RN 884510-67-2 CAPLUS

CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-N3,N6-di-1-naphthalenyl-9-phenyl- (CA INDEX NAME)



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 10 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:1077993 CAPLUS Full-text
DOCUMENT NUMBER: 143:376607
TITLE: Fluorene-based compound and organic electroluminescent display device using the same
INVENTOR(S): Hwang, Seok-Hwan; Lee, Seok-Jong; Kim, Young-Kook; Yang, Seung-Gak; Kim, Hee-Yeon
PATENT ASSIGNEE(S): S. Korea
SOURCE: U.S. Pat. Appl. Publ., 31 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 20050221124	A1	20051006	US 2005-97182		20050404
KR 2005097670	A	20051010	KR 2004-22877		20040402
JP 2005290000	A	20051020	JP 2005-106551		20050401
CN 1702065	A	20051130	CN 2005-10069765		20050401
US 20070231503	A1	20071004	US 2007-806039		20070529
PRIORITY APPLN. INFO.:			KR 2004-22877	A	20040402
			KR 2004-54700	A	20040714
			KR 2004-98747	A	20041129
			US 2005-97182	A2	20050404
			US 2005-181706	A2	20050713
			US 2005-286421	A2	20051125
			KR 2006-48306	A	20060529

OTHER SOURCE(S): MARPAT 143:376607
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

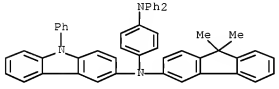
AB A fluorene-based compound represented by the general formula I where Z is represented by the general formula II, III, and IV, where Ar is a substituted or unsubstituted aryl group or a group by the general formula V (X = N, B or P; Y = a single bond, a (un)substituted C1-C30 alkylene group, a (un)substituted C6-C30 arylene group, a (un)substituted C4-C30 heterocyclic group; R1, R2, R3 = H, (un)substituted C1-C30 alkyl group, a (un)substituted C6-C30 aryl group, a (un)substituted C4-C30 heterocyclic group, a (un)substituted C6-C30 condensed polycyclic group, where neighboring groups among R1, R2 and R3 are connected to each other to form a (un)saturated carbon

ring; R', R'' = H, a hydroxy group, a (un)substituted C1-C30 alkyl group, a (un)substituted C6-C30 aryl group) is described. An organic electroluminescent display device comprising two electrodes; and an organic layer interposed between the electrodes, wherein the organic layer comprises the fluorene-based compound is also described.

IT 866119-23-5P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(fluorene-based compound and organic electroluminescent display device using the same)

RN 866119-23-5 CAPLUS

CN 1,4-Benzenediamine, N1-(9,9-dimethyl-9H-fluoren-3-yl)-N4,N4-diphenyl-N1-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



L10 ANSWER 11 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2005:1042363 CAPLUS Full-text

DOCUMENT NUMBER: 143:356288

TITLE: Phenyl carbazole derivatives and organic electroluminescent devices using the same

INVENTOR(S): Kim, Ji-Eun; Lee, Jae-Chol; Kim, Kong-Kyeom; Bae, Jae-Soon; Jang, Jun-Gi; Jeon, Sang-Young; Kang, Min-Soo; Cho, Wook-Dong; Jeon, Byung-Sun; Kim, Yeon-Hwan

PATENT ASSIGNEE(S): LG Chem, Ltd., S. Korea

SOURCE: PCT Int. Appl., 126 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

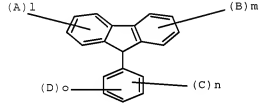
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005090512	A1	20050929	WO 2005-KR794	20050318
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
KR 2005118098	A	20051215	KR 2004-116388	20041230

US 20050225235	A1	20051013	US 2005-83360		20050318
KR 2006044424	A	20060516	KR 2005-22762		20050318
EP 1725632	A1	20061129	EP 2005-733437		20050318
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR					
CN 1906268	A	20070131	CN 2005-80001667		20050318
JP 2007520470	T	20070726	JP 2006-546860		20050318
IN 2006KN01638	A	20070511	IN 2006-KN1638		20060613
PRIORITY APPLN. INFO.:			KR 2004-18877	A	20040319
			KR 2004-116388	A	20041230
			WO 2005-KR794	W	20050318

OTHER SOURCE(S): MARPAT 143:356288

GI



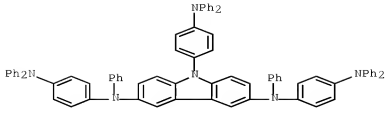
I

AB N-Ph carbazole derivs. are claimed which are described by the general formula I (A = -R1N(R2)-, or -R1N(R2)-Ar-; B = -R3N(R4)-, or -R3N(R4)-Ar-; C = -R5N(R6)-, or -R5N(R6)-Ar-; D = H, -R7N(R8)-, or -R9N(R10)-Ar-; R1-10 = independently selected group each comprising only once or repeatedly ≥2 times, ≥1 of H, C1-20 aliphatic hydrocarbon, aromatic hydrocarbon unsubstituted or substituted with a nitro, nitrile, halogen, alkyl, alkoxy, or amino group, silicon group having an aromatic substituent; heterocyclic aromatic hydrocarbon unsubstituted or substituted with a nitro, nitrile, halogen, alkyl, alkoxy or amino group, thiophene group substituted with a C1-20 hydrocarbon or C6-24 aromatic hydrocarbon; and a boron group substituted with an aromatic hydrocarbon; Ar = an aromatic hydrocarbon unsubstituted or substituted with a nitro, nitrile, halogen, alkyl, alkoxy, or amino group; and l ≥ 1; m ≥ 1; n ≥ 1; and o ≥ 0; with the restriction that the compound represented by formula I wherein R1-6 = H simultaneously and D also = H is excluded). Organic electroluminescent devices using the compds., especially in hole-injecting, hole-transporting, or light-emitting layers, are also described.

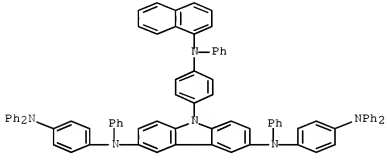
IT 865596-39-0 865596-40-3
RL: DEV (Device component use); USES (Uses)
(Ph carbazole derivs. and organic electroluminescent devices using them)

RN 865596-39-0 CAPLUS

CN 9H-Carbazole-3,6-diamine, N3,N6,9-tris[4-(diphenylamino)phenyl]-N3,N6-diphenyl- (CA INDEX NAME)



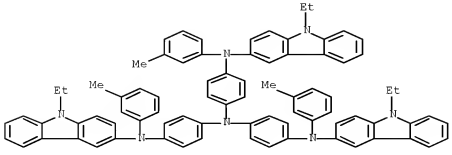
RN 865596-40-3 CAPLUS
CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-9-[4-(1-naphthalenylphenylamino)phenyl]-N3,N6-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 12 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:781000 CAPLUS Full-text
DOCUMENT NUMBER: 143:396220
TITLE: Efficient UV-sensitive organic photovoltaic devices using a starburst amine as electron donor
AUTHOR(S): Li, Jiuyan; Lee, Chun-Sing; Lee, Shuittong
CORPORATE SOURCE: Center of Super-Diamond & Advanced Films (COSDAF) and Dept. of Physics and Materials Sciences, City University of Hong Kong, Hong Kong SAR, Peop. Rep. China
SOURCE: Journal of Materials Chemistry (2005), 15(32), 3268-3271
CODEN: JMACEP; ISSN: 0959-9428
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Organic photovoltaic devices using starburst amine PCATA (triphenylamine with carbazole substituents) as the electron donor layer gave a quantum efficiency of up to 21.7% at short-circuit conditions, which is higher than those reported for UV-sensitive organic PV cells.
IT 847158-26-3
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(electron donor layer; UV-sensitive photovoltaic devices using starburst triphenylamine derivative as electron donor layer)
RN 847158-26-3 CAPLUS
CN 1,4-Benzenediamine, N1-(9-ethyl-9H-carbazol-3-yl)-N4,N4-bis[4-[(9-ethyl-9H-

carbazol-3-yl)(3-methylphenyl)amino]phenyl]-N1-(3-methylphenyl)- (CA INDEX NAME)



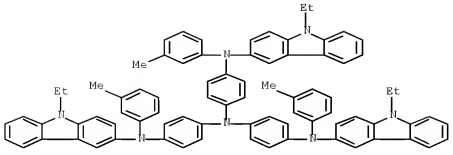
REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 13 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:12250 CAPLUS Full-text
DOCUMENT NUMBER: 142:287529
TITLE: Novel Starburst Molecule as a Hole Injecting and Transporting Material for Organic Light-Emitting Devices
AUTHOR(S): Li, Jiuyan; Ma, Chunwah; Tang, Jianxin; Lee, Chun-Sing; Lee, Shuittong
CORPORATE SOURCE: Center of Super-Diamond and Advanced Films (COSDAF) and Department of Physics and Materials Sciences, City University of Hong Kong, Hong Kong, Hong Kong
SOURCE: Chemistry of Materials (2005), 17(3), 615-619
CODEN: CMATEX; ISSN: 0897-4756
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The authors report the synthesis of a novel starburst mol., 4,4',4''-tris(N-3-methylphenyl-N-(9-ethylcarbazyl-3)amino) triphenylamine (PCATA), and its application in organic light-emitting devices (OLEDs). The introduction of PCATA into the standard NPB/Alq3 OLED as the hole injecting and transporting layer dramatically enhanced the device efficiency to 5.7 cd/A and 2.2 lm/W, which are a factor of 2 higher than those of the standard OLED without the PCATA layer. The performance enhancement is attributed to a better balance of hole and electron injection in the PCATA-added OLED.

IT 847158-26-3P
RL: DEV (Device component use); PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation); USES (Uses)
(PCATA; novel starburst mol. as a hole injecting and transporting material for organic light-emitting devices)

RN 847158-26-3 CAPLUS
CN 1,4-Benzenediamine, N1-(9-ethyl-9H-carbazol-3-yl)-N4,N4-bis[4-[(9-ethyl-9H-carbazol-3-yl)(3-methylphenyl)amino]phenyl]-N1-(3-methylphenyl)- (CA INDEX NAME)

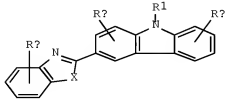


REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

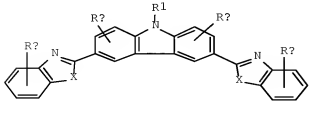
L10 ANSWER 14 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2003:532189 CAPLUS Full-text
DOCUMENT NUMBER: 139:92577
TITLE: Organic EL device
INVENTOR(S): Lin, Tung-Shen; Yeh, Kun-Tay
PATENT ASSIGNEE(S): Lightronik Technology Inc., Taiwan
SOURCE: U.S. Pat. Appl. Publ., 13 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20030129448	A1	20030710	US 2001-982011	20011019
US 6602619	B2	20030805		
PRIORITY APPLN. INFO.:			US 2001-982011	20011019

OTHER SOURCE(S): MARPAT 139:92577
GI



I

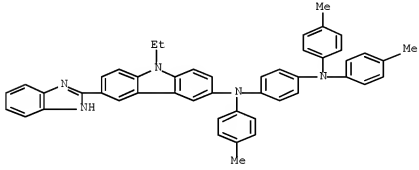


II

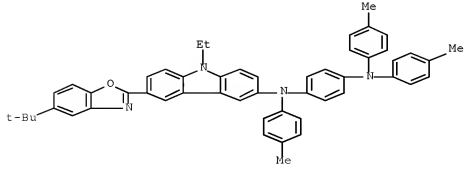
AB An organic EL device which contains an anode, a cathode, and at least one organic thin-file layer including a light emitting layer which contains a compound represented I and II, wherein R1 represents a substituted or unsubstituted alkyl group, a substituted or unsubstituted alkenyl group, a substituted or unsubstituted aromatic hydrocarbon group, a substituted or unsubstituted aromatic heterocyclic group, a substituted or unsubstituted amino group, a substituted or unsubstituted alkoxy group, a substituted or unsubstituted aryloxy group, or a substituted or unsubstituted alkoxycarbonyl group; and Rx is ≥1 functional groups represented by a H atom, halogen atom, nitro group, cyano group, carboxyl group, or R1. Any two Rx groups may form a ring. X represents O atom, N atom and S atom. A blue organic EL device can be provided according to the present invention.

IT 556826-27-8 556826-28-9 556826-29-0
RL: DEV (Device component use); USES (Uses)
(organic EL device with N-substituted carbazole in light-emitting layer)

RN 556826-27-8 CAPLUS
CN 1,4-Benzenediamine, N1-[6-(1H-benzimidazol-2-yl)-9-ethyl-9H-carbazol-3-yl]-N1,N4,N4-tris(4-methylphenyl)- (CA INDEX NAME)

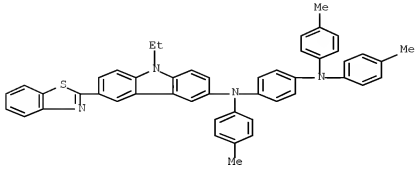


RN 556826-28-9 CAPLUS
CN 1,4-Benzenediamine, N1-[6-[5-(1,1-dimethylethyl)-2-benzoxazolyl]-9-ethyl-9H-carbazol-3-yl]-N1,N4,N4-tris(4-methylphenyl)- (CA INDEX NAME)

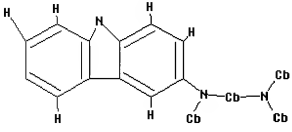


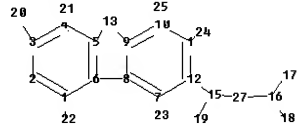
RN 556826-29-0 CAPLUS

CN 1,4-Benzenediamine, N1-[6-(2-benzothiazolyl)-9-ethyl-9H-carbazol-3-yl]-
N1,N4,N4-tris(4-methylphenyl)- (CA INDEX NAME)



=>
Uploading C:\Program Files\STNEXP\Queries\10583028#2.str





chain nodes :
15 16 17 18 19 20 21 22 23 24 25 27
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13
chain bonds :
1-22 3-20 4-21 7-23 10-25 11-24 12-15 15-19 15-27 16-18 16-17 16-27
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 5-13 6-8 7-8 7-12 8-9 9-10 9-13 10-11 11-12

exact/norm bonds :
5-13 6-8 9-13 12-15
exact bonds :
1-22 3-20 4-21 7-23 10-25 11-24 15-19 15-27 16-18 16-17 16-27
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12

G1:Cb,Ak,C,H

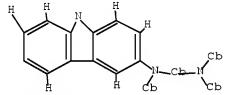
G2:Cb,Hy

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 15:CLASS 16:CLASS 17:Atom 18:Atom 19:Atom 20:CLASS
21:CLASS 22:CLASS
23:CLASS 24:CLASS 25:CLASS 27:Atom
Generic attributes :

17:
Saturation : Unsaturated
18:
Saturation : Unsaturated
19:
Saturation : Unsaturated
27:
Saturation : Unsaturated

L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR



G1 Cb,Ak,C,H
G2 Cb,Hy

Structure attributes must be viewed using STN Express query preparation.

=> s l1
SAMPLE SEARCH INITIATED 09:27:21 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 5979 TO ITERATE
L4 15 L3

=> d ibib abs hitstr 1-15

L4 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2008:1282001 CAPLUS Full-text
DOCUMENT NUMBER: 149:494318
TITLE: Sulfonated polymeric compound, its intermediate, and organic electroluminescent device containing the compound
INVENTOR(S): Sekiguchi, Michiru; Togashi, Kazuhiko
PATENT ASSIGNEE(S): Mitsui Chemicals, Inc., Japan
SOURCE: PCT Int. Appl., 165pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

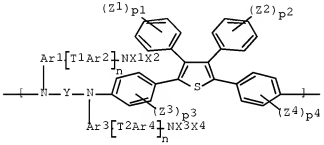
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008126393	A1	20081023	WO 2008-JP861	20080403

W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: JP 2007-98103 A 20070404

GI



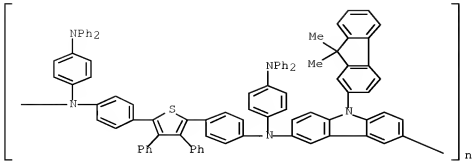
I

AB A sulfonated polymeric compound, and its intermediate, which sulfonated polymeric compound is characterized by having the structure resulting from introduction of a sulfo group in a polymeric compound having, in its polymer chain, ≥1 of the repeating units (I) (wherein each of Z1 to Z4 is a substituent; each of p1 and p2 is an integer of 0 to 5; each of p3 and p4 is an integer of 0 to 4; each of X1 to X4 is a monovalent aromatic group, provided that X1 and X2, and X3 and X4, may be bonded with each other to thereby form a ring; Y is a bivalent aromatic group; each of Ar1 to Ar4 independently is a bivalent aromatic group, provided that the bivalent aromatic group may be an aromatic group resulting from bonding of aromatic groups to each other leading to cyclization; each of T1 and T2 independently is a single bond or a group selected from the group consisting of -(CH2)t-, -CH=CH-, -C≡C-, -O-, -S-, -CQ1Q2-, -CO-, -SO-, -SO2- and -SiE2-; t is an integer of 1 to 20; each of Q1 and Q2 is an alkyl or an aromatic group, provided that these may be bonded with each other to thereby form a ring; E is a hydrogen atom, an alkyl or an aromatic group; and each of m and n is an integer of 0 to 2).

IT 1072155-70-4DP, sulfonated compound
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of solvent-soluble sulfonated polymeric compds. and their intermediates useful for organic electroluminescent devices)

RN 1072155-70-4 CAPLUS

CN Poly[[9-(9,9-dimethyl-9H-fluoren-2-yl)-9H-carbazole-3,6-diyl][[4-(diphenylamino)phenyl]imino]-1,4-phenylene(3,4-diphenyl-2,5-thiophenediyl)-1,4-phenylene[[4-(diphenylamino)phenyl]imino]] (CA INDEX NAME)



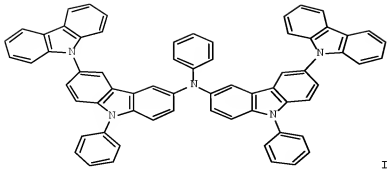
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manuf. of solvent-sol. sulfonated polymeric compds. and their intermediates useful for org. electroluminescent devices

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2008:608032 CAPLUS Full-text
DOCUMENT NUMBER: 148:572612
TITLE: Novel carbazole derivative and use thereof
INVENTOR(S): Nakayama, Masami; Tsubaki, Tomoyuki
PATENT ASSIGNEE(S): Bando Chemical Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 88pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008059943	A1	20080522	WO 2007-JP72246	20071109
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
JP 2008127290	A	20080605	JP 2006-310825	20061116
PRIORITY APPLN. INFO.:			JP 2006-310825 A	20061116

OTHER SOURCE(S): MARPAT 148:572612
GI



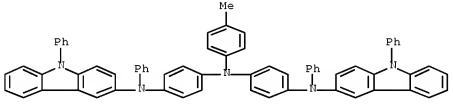
I

AB The carbazole derivative, having ≥2 carbazole structures in the mol., for example, I, is prepared The carbazole derivative can form a stable amorphous film by itself at a temperature equal to or higher than ambient temperature, has a high glass transition temperature, and can be suitably used as an organic electronic functional material, such as an electroluminescent material element.

IT 1026033-63-5P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of heat-resistant carbazole derivs. for electroluminescent materials)

RN 1026033-63-5 CAPLUS

CN 1,4-Benzenediamine, N1-(4-methylphenyl)-N4-phenyl-N4-(9-phenyl-9H-carbazol-3-yl)-N1-[4-[phenyl(9-phenyl-9H-carbazol-3-yl)amino]phenyl]- (CA INDEX NAME)



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2008:91000 CAPLUS Full-text

DOCUMENT NUMBER: 148:178962

TITLE: Carbazole-containing amine compound and use thereof

INVENTOR(S): Yagi, Tadao; Tanaka, Hiroaki; Oryu, Yoshitake; Toba, Yasumasa; Suda, Yasumasa; Tamano, Michiko

PATENT ASSIGNEE(S): Toyo Ink Manufacturing Co., Ltd., Japan

SOURCE: PCT Int. Appl., 174pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

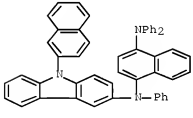
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008010377	A1	20080124	WO 2007-JP62348	20070619
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
JP 2008044923	A	20080228	JP 2006-250332	20060915
PRIORITY APPLN. INFO.:			JP 2006-199927 A	20060721
			JP 2006-250332 A	20060915
			JP 2005-294504 A	20051007

OTHER SOURCE(S): MARPAT 148:178962

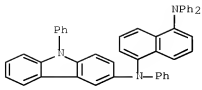
AB Disclosed is a carbazole-containing amine compound which has a high Tg value and is hardly crystallized and therefore probably forms a stable thin film, and which can show excellent properties such as an ability of being operated at a low voltage and long service life when used as a material for an organic EL element.

IT 1002763-08-7P 1002763-12-3P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(hight Tg carbazole-containing amine compound used as charge transport material in electroluminescent device)

RN 1002763-08-7 CAPLUS
CN 1,4-Naphthalenediamine, N1-[9-(2-naphthalenyl)-9H-carbazol-3-yl]-N1,N4,N4-triphenyl- (CA INDEX NAME)



RN 1002763-12-3 CAPLUS
CN 1,5-Naphthalenediamine, N1,N1,N5-triphenyl-N5-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)

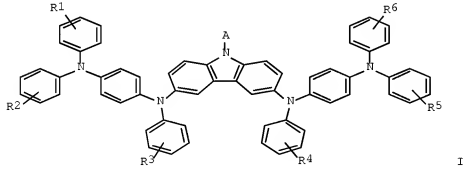


REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2007:1237378 CAPLUS Full-text
DOCUMENT NUMBER: 147:494224
TITLE: Carbazole derivatives, their uses, and organic electroluminescent devices using them
INVENTOR(S): Nakayama, Masami; Kato, Hideyuki
PATENT ASSIGNEE(S): Bando Chemical Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 16pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007284411	A	20071101	JP 2006-116940	20060420
PRIORITY APPLN. INFO.:			JP 2006-116940	20060420

OTHER SOURCE(S): MARPAT 147:494224
GI



I

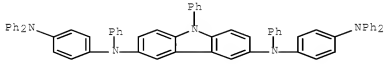
AB Title derivs. I [A = H, halo, C1-20 alkyl, C1-20 alkoxy, (un)substituted aryl, (un)substituted heterocyclyl; R1-R6 = H, C1-20 alkyl, C1-20 alkoxy, di(C1-20 alkyl)amino, (un)substituted aryl, (un)substituted heterocyclyl] are used as hole injecting agents and/or hole transport agents. Also claimed are organic electroluminescent devices having a hole injection layer and/or hole transport layer containing above agents.

IT 884510-65-0P 953812-97-0P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material

use); PREP (Preparation); USES (Uses)
(preparation of bis[phenyl(diphenylaminophenyl)amino]carbazoles and organic electroluminescent devices having hole injection layer and/or hole transport layer containing them)

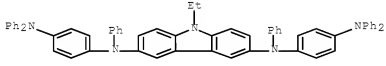
RN 884510-65-0 CAPLUS

CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-N3,N6,9-triphenyl- (CA INDEX NAME)



RN 953812-97-0 CAPLUS

CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-9-ethyl-N3,N6-diphenyl- (CA INDEX NAME)



L4 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2007:1118739 CAPLUS Full-text

DOCUMENT NUMBER: 147:436460

TITLE: Organic light emitting device and flat panel display device comprising the same

INVENTOR(S): Hwang, Seok--Hwan; Kim, Young-Kook; Kwak, Yoon-Hyun; Lee, Jong-Hyuk; Lee, Kwan-Hee; Chun, Min-Seung

PATENT ASSIGNEE(S): S. Korea

SOURCE: U.S. Pat. Appl. Publ., 49pp., Cont.-in-part of U.S. Ser. No. 286,421.
CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 5

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20070231503	A1	20071004	US 2007-806039	20070529
KR 2005097670	A	20051010	KR 2004-22877	20040402
KR 2006005755	A	20060118	KR 2004-54700	20040714
KR 2006059613	A	20060602	KR 2004-98747	20041129
KR 787425	B1	20071226		
US 20050221124	A1	20051006	US 2005-97182	20050404
US 20060020136	A1	20060126	US 2005-181706	20050713
US 7431997	B2	20081007		
US 20060115680	A1	20060601	US 2005-286421	20051125
KR 2007114562	A	20071204	KR 2006-48306	20060529

KR 846586	B1	20080716			
JP 2007318101	A	20071206	JP 2007-110746		20070419
CN 101083308	A	20071205	CN 2007-10109285		20070529
EP 1862524	A1	20071205	EP 2007-109066		20070529
EP 1862524	B1	20090408			
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, YU					
KR 2007114669	A	20071204	KR 2007-76436		20070730
KR 846608	B1	20080716			
PRIORITY APPLN. INFO.:			KR 2004-22877	A	20040402
			KR 2004-54700	A	20040714
			KR 2004-98747	A	20041129
			US 2005-97182	A2	20050404
			US 2005-181706	A2	20050713
			US 2005-286421	A2	20051125
			KR 2006-48306	A	20060529

OTHER SOURCE(S): MARPAT 147:436460
GI

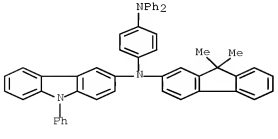
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB An organic light emitting device is described comprising a substrate; a first and a second electrode; one of the electrodes being a reflective electrode, the other being a (semi)transparent; and an organic layer interposed between the electrodes, the organic layer comprising an emission layer, and comprising a compound represented by general formula I, II, and III, where X = C1-C30 alkylene or alkenylene, C6-C30 arylene, C2-C30 heteroarylene, C2-C30 hetero ring; R1-R8 = (each independently) H, C1-C30 alkyl, C1-C30 alkoxy, C6-C30 aryl, C6-C30 aryloxy, C2-C30 hetero ring, C5-C30 polycyclic condensed ring, hydroxy, cyano, amino (R1, R2, R3 may bound together to form ring, R4, R5 may bound together to form a ring, two or more of R6,R7, R8 may bound together to form carbon ring); Ar1, Ar2, Ar3 = (each independently) C6-C30 aryl, C2-C30 heteroaryl; Y = (independently) C1-C30 alkyl, C6-C30 aryl, C2-C30 hetero ring; n (independently) = integer of 0-5. A flat panel display device comprising the organic light emitting device is also described.

IT 951407-79-7
RL: TEM (Technical or engineered material use); USES (Uses)
(organic light emitting device using novel organic materials and flat panel display device comprising the same)

RN 951407-79-7 CAPLUS

CN 1,4-Benzenediamine, N1-(9,9-dimethyl-9H-fluoren-2-yl)-N4,N4-diphenyl-N1-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



L4 ANSWER 6 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2007:619691 CAPLUS Full-text
DOCUMENT NUMBER: 147:41962
TITLE: Diaminoarylene compound having carbazolyl group and use thereof for electroluminescent element
INVENTOR(S): Yagi, Tadao; Suda, Yasumasa; Oryu, Yoshitake; Tanaka, Hiroaki; Toba, Yasumasa
PATENT ASSIGNEE(S): Toyo Ink Manufacturing Co., Ltd., Japan
SOURCE: PCT Int. Appl., 193pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007063986	A1	20070607	WO 2006-JP324094	20061201
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
JP 4211869	B2	20090121	JP 2007-528500	20061201
KR 2008080513	A	20080904	KR 2008-713038	20080530
CN 101321728	A	20081210	CN 2006-80045215	20080602

PRIORITY APPLN. INFO.: JP 2005-349151 A 20051202
JP 2006-65680 A 20060310
JP 2006-205844 A 20060728
JP 2006-212941 A 20060804
WO 2006-JP324094 W 20061201

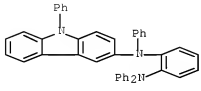
OTHER SOURCE(S): MARPAT 147:41962

AB Disclosed is a diaminoarylene compound having a carbazolyl group, which is represented by the general formula (Ar3)(Ar1)N-X-N(Ar2)(Ar4) [wherein Ar1 to Ar4 independently represent a univalent aromatic hydrocarbyl having 6 to 18 carbon atoms which may has a substituent, a univalent heterocyclic group having 2 to 18 carbon atoms which may have a substituent, or a 3-carbazolyl-derived group, provided that at least one of Ar1 to Ar4 represents a 3-carbazolyl-derived group; and X represents a phenanthrene-diyl-derived group which may have a substituent, an o-phenylene-derived group which may have a substituent, or an m-phenylene-derived group which may have a substituent]. Also disclosed is a material for an organic electroluminescence element, which comprises the diaminoarylene compound Further disclosed is an electroluminescence element using the material.

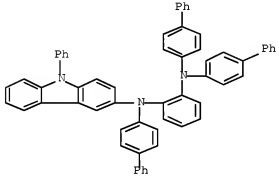
IT 938510-95-3P 938510-99-7P 938511-39-8P
938511-40-1P 938511-41-2P 938511-42-3P
938511-44-5P 938511-45-6P 938511-46-7P
938511-47-8P 938511-48-9P 938511-49-0P
938511-50-3P 938511-51-4P 938511-52-5P
938511-53-6P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material

use); PREP (Preparation); USES (Uses)
(diaminoarylene compound having carbazolyl group and use thereof for electroluminescent element)

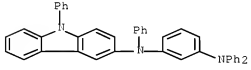
RN 938510-95-3 CAPLUS
CN 1,2-Benzenediamine, N1,N1,N2-triphenyl-N2-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



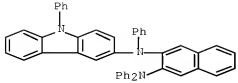
RN 938510-99-7 CAPLUS
CN 1,2-Benzenediamine, N1,N1,N2-tris([1,1'-biphenyl]-4-yl)-N2-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



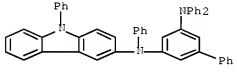
RN 938511-39-8 CAPLUS
CN 1,3-Benzenediamine, N1,N1,N3-triphenyl-N3-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



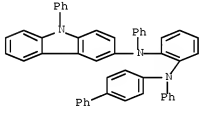
RN 938511-40-1 CAPLUS
CN 2,3-Naphthalenediamine, N2,N2,N3-triphenyl-N3-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



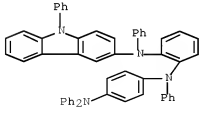
RN 938511-41-2 CAPLUS
CN [1,1'-Biphenyl]-3,5-diamine, N3,N3,N5-triphenyl-N5-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



RN 938511-42-3 CAPLUS
CN 1,2-Benzenediamine, N1-[1,1'-biphenyl]-4-yl-N1,N2-diphenyl-N2-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)

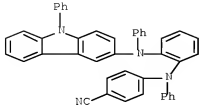


RN 938511-44-5 CAPLUS
CN 1,2-Benzenediamine, N1-[4-(diphenylamino)phenyl]-N1,N2-diphenyl-N2-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)

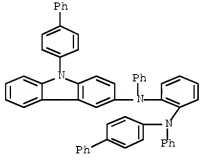


RN 938511-45-6 CAPLUS
CN Benzonitrile, 4-[phenyl[2-[phenyl(9-phenyl-9H-carbazol-3-

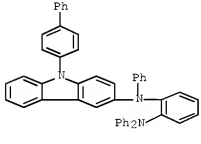
yl)amino]phenyl]amino]- (CA INDEX NAME)



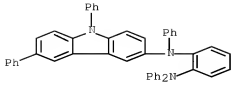
RN 938511-46-7 CAPLUS
CN 1,2-Benzenediamine, N1-[1,1'-biphenyl]-4-yl-N2-(9-[1,1'-biphenyl]-4-yl-9H-carbazol-3-yl)-N1,N2-diphenyl- (CA INDEX NAME)



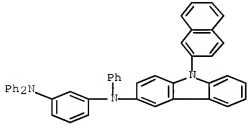
RN 938511-47-8 CAPLUS
CN 1,2-Benzenediamine, N1-(9-[1,1'-biphenyl]-4-yl-9H-carbazol-3-yl)-N1,N2,N2-triphenyl- (CA INDEX NAME)



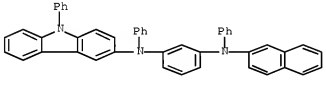
RN 938511-48-9 CAPLUS
CN 1,2-Benzenediamine, N1-(6,9-diphenyl-9H-carbazol-3-yl)-N1,N2,N2-triphenyl- (CA INDEX NAME)



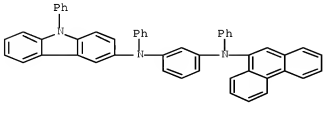
RN 938511-49-0 CAPLUS
CN 1,3-Benzenediamine, N1-[9-(2-naphthalenyl)-9H-carbazol-3-yl]-N1,N3,N3-triphenyl- (CA INDEX NAME)



RN 938511-50-3 CAPLUS
CN 1,3-Benzenediamine, N1-2-naphthalenyl-N1,N3-diphenyl-N3-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)

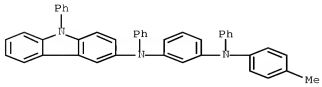


RN 938511-51-4 CAPLUS
CN 1,3-Benzenediamine, N1-9-phenanthrenyl-N1,N3-diphenyl-N3-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)

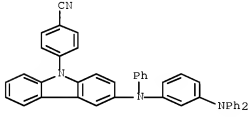


RN 938511-52-5 CAPLUS

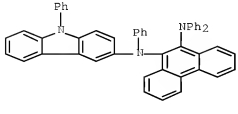
CN 1,3-Benzenediamine, N1-(4-methylphenyl)-N1,N3-diphenyl-N3-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



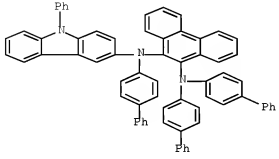
RN 938511-53-6 CAPLUS
CN Benzonitrile, 4-[3-[[3-(diphenylamino)phenyl]phenylamino]-9H-carbazol-9-yl]- (CA INDEX NAME)



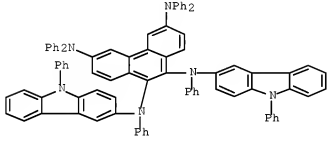
IT 938510-47-5 938510-49-7 938510-76-0
938510-77-1 938510-79-3 938510-81-7
938510-82-8 938510-83-9 938510-84-0
938510-85-1 938510-86-2 938510-87-3
938510-88-4 938510-89-5 938510-90-8
938510-91-9 938510-92-0 938510-93-1
938511-74-1 938511-75-2 938511-76-3
938511-77-4 938511-78-5
RL: TEM (Technical or engineered material use); USES (Uses)
(diaminoarylene compound having carbazolyl group and use thereof for electroluminescent element)
RN 938510-47-5 CAPLUS
CN 9,10-Phenanthrenediamine, N9,N9,N10-triphenyl-N10-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



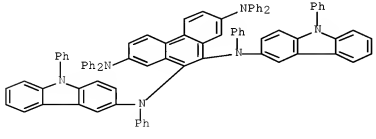
RN 938510-49-7 CAPLUS
CN 9,10-Phenanthrenediamine, N9,N9,N10-tris([1,1'-biphenyl]-4-yl)-N10-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



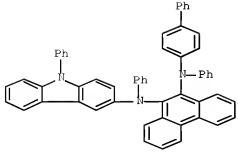
RN 938510-76-0 CAPLUS
CN 3,6,9,10-Phenanthrenetetramine, N3,N3,N6,N6,N9,N10-hexaphenyl-N9,N10-bis(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



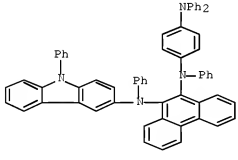
RN 938510-77-1 CAPLUS
CN 2,7,9,10-Phenanthrenetetramine, N2,N2,N7,N7,N9,N10-hexaphenyl-N9,N10-bis(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



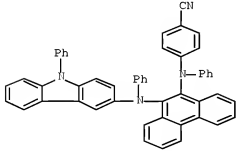
RN 938510-79-3 CAPLUS
CN 9,10-Phenanthrenediamine, N9-[1,1'-biphenyl]-4-yl-N9,N10-diphenyl-N10-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



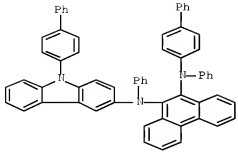
RN 938510-81-7 CAPLUS
CN 9,10-Phenanthrenediamine, N9-[4-(diphenylamino)phenyl]-N9,N10-diphenyl-N10-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



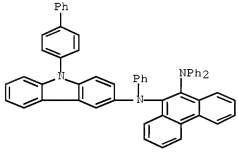
RN 938510-82-8 CAPLUS
CN Benzonitrile, 4-[phenyl[10-[phenyl(9-phenyl-9H-carbazol-3-yl)amino]-9-phenanthrenyl]amino]- (CA INDEX NAME)



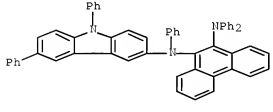
RN 938510-83-9 CAPLUS
CN 9,10-Phenanthrenediamine, N9-[1,1'-biphenyl]-4-yl-N10-(9-[1,1'-biphenyl]-4-yl-9H-carbazol-3-yl)-N9,N10-diphenyl- (CA INDEX NAME)



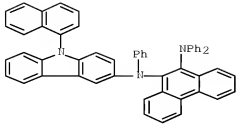
RN 938510-84-0 CAPLUS
CN 9,10-Phenanthrenediamine, N9-(9-[1,1'-biphenyl]-4-yl-9H-carbazol-3-yl)-N9,N10,N10-triphenyl- (CA INDEX NAME)



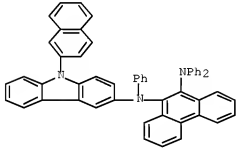
RN 938510-85-1 CAPLUS
CN 9,10-Phenanthrenediamine, N9-(6,9-diphenyl-9H-carbazol-3-yl)-N9,N10,N10-triphenyl- (CA INDEX NAME)



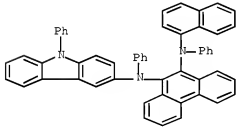
RN 938510-86-2 CAPLUS
CN 9,10-Phenanthrenediamine, N9-[9-(1-naphthalenyl)-9H-carbazol-3-yl]-N9,N10,N10-triphenyl- (CA INDEX NAME)



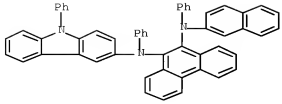
RN 938510-87-3 CAPLUS
CN 9,10-Phenanthrenediamine, N9-[9-(2-naphthalenyl)-9H-carbazol-3-yl]-N9,N10,N10-triphenyl- (CA INDEX NAME)



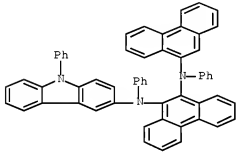
RN 938510-88-4 CAPLUS
CN 9,10-Phenanthrenediamine, N9-1-naphthalenyl-N9,N10-diphenyl-N10-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



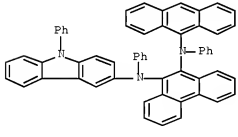
RN 938510-89-5 CAPLUS
CN 9,10-Phenanthrenediamine, N9-2-naphthalenyl-N9,N10-diphenyl-N10-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



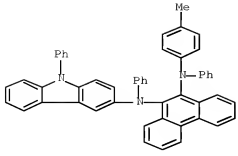
RN 938510-90-8 CAPLUS
CN 9,10-Phenanthrenediamine, N9-9-phenanthrenyl-N9,N10-diphenyl-N10-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



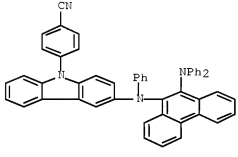
RN 938510-91-9 CAPLUS
CN 9,10-Phenanthrenediamine, N9-9-anthracenyl-N9,N10-diphenyl-N10-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



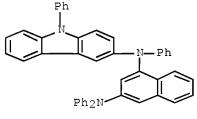
RN 938510-92-0 CAPLUS
CN 9,10-Phenanthrenediamine, N9-(4-methylphenyl)-N9,N10-diphenyl-N10-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



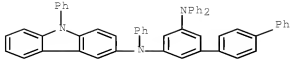
RN 938510-93-1 CAPLUS
CN Benzonitrile, 4-[3-[[10-(diphenylamino)-9-phenanthrenyl]phenylamino]-9H-carbazol-9-yl]- (CA INDEX NAME)



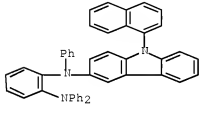
RN 938511-74-1 CAPLUS
CN 1,3-Naphthalenediamine, N1,N3,N3-triphenyl-N1-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



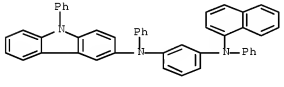
RN 938511-75-2 CAPLUS
CN [1,1':4',1''-Terphenyl]-3,5-diamine, N3,N3,N5-triphenyl-N5-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



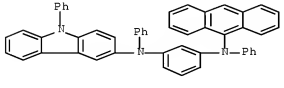
RN 938511-76-3 CAPLUS
CN 1,2-Benzenediamine, N1-[9-(1-naphthalenyl)-9H-carbazol-3-yl]-N1,N2,N2-triphenyl- (CA INDEX NAME)



RN 938511-77-4 CAPLUS
CN 1,3-Benzenediamine, N1-1-naphthalenyl-N1,N3-diphenyl-N3-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



RN 938511-78-5 CAPLUS
CN 1,3-Benzenediamine, N1-9-anthracenyl-N1,N3-diphenyl-N3-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 7 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2007:175254 CAPLUS Full-text
DOCUMENT NUMBER: 146:238974

TITLE: Arylamine compounds which have resistance to repeated oxidation reactions, and light-emitting elements and electronic devices employing the arylamine compounds

INVENTOR(S): Nakashima, Harue; Kawakami, Sachiko

PATENT ASSIGNEE(S): Semiconductor Energy Laboratory Co., Japan

SOURCE: U.S. Pat. Appl. Publ., 48pp.
CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20070037011	A1	20070215	US 2006-500278	20060808
WO 2007020804	A1	20070222	WO 2006-JP315351	20060727
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
JP 2007070352	A	20070322	JP 2006-217779	20060810
CN 101243038	A	20080813	CN 2006-80029357	20080213
KR 2008034191	A	20080418	KR 2008-705376	20080304
PRIORITY APPLN. INFO.:			JP 2005-234432 A	20050812
			WO 2006-JP315351 W	20060727

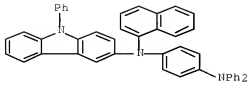
OTHER SOURCE(S): MARPAT 146:238974

AB Secondary arylamine compds. having resistance to repeated oxidation reactions are described by the General Formula NH(Ar1)XN(Ar2)Ar3, wherein Ar1 is one of an aryl group having 7 to 25 C atoms and a heteroaryl group having 7 to 25 C atoms, where each of Ar2 and Ar3 is one of an aryl group having 6 to 25 C atoms and a heteroaryl group having 5 to 9 C atoms, and where X is one of a bivalent aromatic hydrocarbon group having 6 to 25 C atoms and a bivalent heterocyclic group having 5 to 10 C atoms. Light-emitting elements and electronic devices employing the arylamine compds. are also discussed.

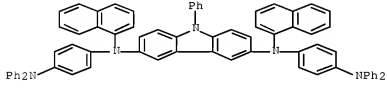
IT 884510-66-1P 884510-67-2P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(arylamine compds. which have resistance to repeated oxidation reactions, and light-emitting elements and electronic devices employing arylamine compds.)

RN 884510-66-1 CAPLUS

CN 1,4-Benzenediamine, N1-1-naphthalenyl-N4,N4-diphenyl-N1-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



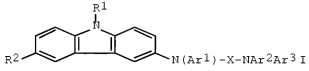
RN 884510-67-2 CAPLUS
CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-N3,N6-di-1-naphthalenyl-9-phenyl- (CA INDEX NAME)

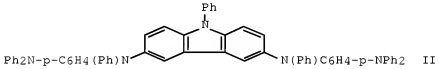


L4 ANSWER 8 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2006:542713 CAPLUS Full-text
DOCUMENT NUMBER: 145:17408
TITLE: Light emitting element that includes a mixed carbazole derivative-transition metal oxide hole transport layer
INVENTOR(S): Nakashima, Harue; Kawakami, Sachiko; Kumaki, Daisuke; Seo, Satoshi; Ikeda, Hisao; Sakata, Junichiro; Iwaki, Yuji
PATENT ASSIGNEE(S): Semiconductor Energy Laboratory Co., Ltd., Japan
SOURCE: PCT Int. Appl., 145 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006059745	A1	20060608	WO 2005-JP22240	20051128
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
CN 101065858	A	20071031	CN 2005-80040713	20051128
JP 2006303421	A	20061102	JP 2005-345745	20051130

US 20090058267 A1 20090305 US 2006-584308 20060623
KR 2007090215 A 20070905 KR 2007-714544 20070626
PRIORITY APPLN. INFO.: JP 2004-347518 A 20041130
JP 2005-84566 A 20050323
WO 2005-JP22240 W 20051128
OTHER SOURCE(S): MARPAT 145:17408
GI





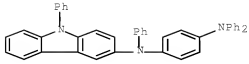
II

AB One object of the present invention is to provide a light emitting element that includes an organic compound and an inorg. compound and has low driving voltage. The light emitting element of the invention includes a plurality of layers between a pair of electrodes, wherein the plurality of layers includes a layer that contains a carbazole derivative represented by a general formula (I; R1 = e.g., H, alkyl, aryl; R2 = H, alkyl, NAr4YNAr5Ar6; Ar1-Ar6 = aryl, heteroaryl; X, Y = bivalent aromatic hydrocarbon or bivalent heterocycle) and an inorg. compound exhibiting an electron accepting property with respect to the carbazole derivative By utilizing this structure, electrons are transported between the carbazole derivative and the inorg. compound and carriers are internally generated, and hence, the driving voltage of the light emitting element can be reduced. Thus, e.g., coupling of 3,6-diiodo-9-phenylcarbazole (preparation given) with PhNHC6H4-p-NPh2 (preparation given) afforded target carbazole II (75% yield). A 50 nm film containing II and molybdenum oxide (1:1.5 molar ratio) exhibited a charge-transfer absorption band (absent in either component of the film taken individually) representing hole generation in II and electron acceptance by molybdenum oxide; consequently, the driving voltage of a light-emitting element can be reduced because of this internal carrier generation.

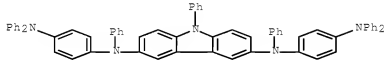
IT 884510-64-9P 884510-65-0P 884510-66-1P
884510-67-2P
RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)
(light emitting element that includes a mixed carbazole derivative-transition metal oxide hole transport layer)

RN 884510-64-9 CAPLUS

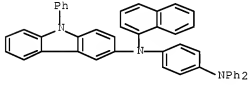
CN 1,4-Benzenediamine, N1,N1,N4-triphenyl-N4-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



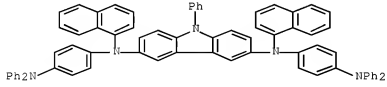
RN 884510-65-0 CAPLUS
CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-N3,N6,9-triphenyl- (CA INDEX NAME)



RN 884510-66-1 CAPLUS
CN 1,4-Benzenediamine, N1-1-naphthalenyl-N4,N4-diphenyl-N1-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



RN 884510-67-2 CAPLUS
CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-N3,N6-di-1-naphthalenyl-9-phenyl- (CA INDEX NAME)



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2006:380901 CAPLUS Full-text
DOCUMENT NUMBER: 144:422228

TITLE: Carbazole derivative, and light emitting element and light emitting device using the carbazole derivative

INVENTOR(S): Nakashima, Harue; Kawakami, Sachiko; Kumaki, Daisuke

PATENT ASSIGNEE(S): Semiconductor Energy Laboratory Co., Ltd., Japan

SOURCE: PCT Int. Appl., 142 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

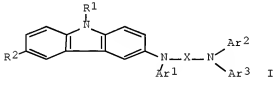
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006043647	A1	20060427	WO 2005-JP19349	20051014
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
EP 1805140	A1	20070711	EP 2005-795774	20051014
R: DE, FI, FR, GB, NL				
CN 101039909	A	20070919	CN 2005-80035385	20051014
JP 2006298895	A	20061102	JP 2005-303732	20051018
US 20080284328	A1	20081120	US 2006-583028	20060615
PRIORITY APPLN. INFO.:			JP 2004-304225 A	20041019
			JP 2004-333344 A	20041117
			JP 2005-84533 A	20050323
			WO 2005-JP19349 W	20051014

OTHER SOURCE(S): MARPAT 144:422228

GI



I

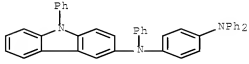
AB The title carbazole derivs. are described by the general formula I (R1 = H, C1-6 alkyl, C6-25 aryl, C5-9 heteroaryl, arylalkyl, or C1-7 acyl; R2 = H, C1-6 alkyl, or -N(Ar4)-Y-N(Ar5)Ar6; Ar1-6 = independently selected C6-25 aryl and/or C5-9 heteroaryl; and X and Y = independently selected C6-25 bivalent aromatic hydrocarbon and/or C5-10 bivalent heterocyclic group). Light-emitting elements incorporating the derivs., devices (e.g., displays) incorporating the elements, and electronic apparatus employing the elements, are also described.

IT 884510-64-9P 884510-65-0P 884510-66-1P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(carbazole derivative, and light emitting element and light emitting device using carbazole derivative)

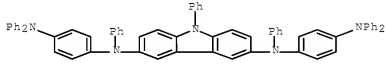
RN 884510-64-9 CAPLUS

CN 1,4-Benzenediamine, N1,N1,N4-triphenyl-N4-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



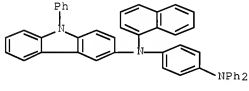
RN 884510-65-0 CAPLUS

CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-N3,N6,9-triphenyl- (CA INDEX NAME)



RN 884510-66-1 CAPLUS

CN 1,4-Benzenediamine, N1-1-naphthalenyl-N4,N4-diphenyl-N1-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)

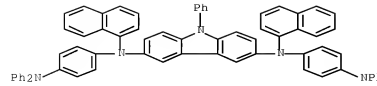


IT 884510-67-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(carbazole derivative, and light emitting element and light emitting device using carbazole derivative)

RN 884510-67-2 CAPLUS

CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-N3,N6-di-1-naphthalenyl-9-phenyl- (CA INDEX NAME)



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 10 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:1077993 CAPLUS Full-text
DOCUMENT NUMBER: 143:376607
TITLE: Fluorene-based compound and organic electroluminescent display device using the same
INVENTOR(S): Hwang, Seok-Hwan; Lee, Seok-Jong; Kim, Young-Kook; Yang, Seung-Gak; Kim, Hee-Yeon
PATENT ASSIGNEE(S): S. Korea
SOURCE: U.S. Pat. Appl. Publ., 31 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 20050221124	A1	20051006	US 2005-97182		20050404
KR 2005097670	A	20051010	KR 2004-22877		20040402
JP 2005290000	A	20051020	JP 2005-106551		20050401
CN 1702065	A	20051130	CN 2005-10069765		20050401
US 20070231503	A1	20071004	US 2007-806039		20070529
PRIORITY APPLN. INFO.:			KR 2004-22877	A	20040402
			KR 2004-54700	A	20040714
			KR 2004-98747	A	20041129
			US 2005-97182	A2	20050404
			US 2005-181706	A2	20050713
			US 2005-286421	A2	20051125
			KR 2006-48306	A	20060529

OTHER SOURCE(S): MARPAT 143:376607
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

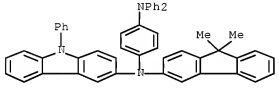
AB A fluorene-based compound represented by the general formula I where Z is represented by the general formula II, III, and IV, where Ar is a substituted or unsubstituted aryl group or a group by the general formula V (X = N, B or P; Y = a single bond, a (un)substituted C1-C30 alkylene group, a (un)substituted C6-C30 arylene group, a (un)substituted C4-C30 heterocyclic group; R1, R2, R3 = H, (un)substituted C1-C30 alkyl group, a (un)substituted C6-C30 aryl group, a (un)substituted C4-C30 heterocyclic group, a (un)substituted C6-C30 condensed polycyclic group, where neighboring groups among R1, R2 and R3 are connected to each other to form a (un)saturated carbon

ring; R', R'' = H, a hydroxy group, a (un)substituted C1-C30 alkyl group, a (un)substituted C6-C30 aryl group) is described. An organic electroluminescent display device comprising two electrodes; and an organic layer interposed between the electrodes, wherein the organic layer comprises the fluorene-based compound is also described.

IT 866119-23-5P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(fluorene-based compound and organic electroluminescent display device using the same)

RN 866119-23-5 CAPLUS

CN 1,4-Benzenediamine, N1-(9,9-dimethyl-9H-fluoren-3-yl)-N4,N4-diphenyl-N1-(9-phenyl-9H-carbazol-3-yl)- (CA INDEX NAME)



L4 ANSWER 11 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2005:1042363 CAPLUS Full-text

DOCUMENT NUMBER: 143:356288

TITLE: Phenyl carbazole derivatives and organic electroluminescent devices using the same

INVENTOR(S): Kim, Ji-Eun; Lee, Jae-Chol; Kim, Kong-Kyeom; Bae, Jae-Soon; Jang, Jun-Gi; Jeon, Sang-Young; Kang, Min-Soo; Cho, Wook-Dong; Jeon, Byung-Sun; Kim, Yeon-Hwan

PATENT ASSIGNEE(S): LG Chem, Ltd., S. Korea

SOURCE: PCT Int. Appl., 126 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

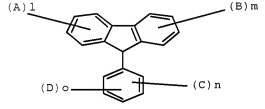
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005090512	A1	20050929	WO 2005-KR794	20050318
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
KR 2005118098	A	20051215	KR 2004-116388	20041230

US 20050225235	A1	20051013	US 2005-83360		20050318
KR 2006044424	A	20060516	KR 2005-22762		20050318
EP 1725632	A1	20061129	EP 2005-733437		20050318
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR					
CN 1906268	A	20070131	CN 2005-80001667		20050318
JP 2007520470	T	20070726	JP 2006-546860		20050318
IN 2006KN01638	A	20070511	IN 2006-KN1638		20060613
PRIORITY APPLN. INFO.:			KR 2004-18877	A	20040319
			KR 2004-116388	A	20041230
			WO 2005-KR794	W	20050318

OTHER SOURCE(S): MARPAT 143:356288

GI



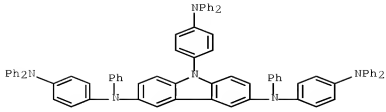
I

AB N-Ph carbazole derivs. are claimed which are described by the general formula I (A = -R1N(R2)-, or -R1N(R2)-Ar-; B = -R3N(R4)-, or -R3N(R4)-Ar-; C = -R5N(R6)-, or -R5N(R6)-Ar-; D = H, -R7N(R8)-, or -R9N(R10)-Ar-; R1-10 = independently selected group each comprising only once or repeatedly ≥2 times, ≥1 of H, C1-20 aliphatic hydrocarbon, aromatic hydrocarbon unsubstituted or substituted with a nitro, nitrile, halogen, alkyl, alkoxy, or amino group, silicon group having an aromatic substituent; heterocyclic aromatic hydrocarbon unsubstituted or substituted with a nitro, nitrile, halogen, alkyl, alkoxy or amino group, thiophene group substituted with a C1-20 hydrocarbon or C6-24 aromatic hydrocarbon; and a boron group substituted with an aromatic hydrocarbon; Ar = an aromatic hydrocarbon unsubstituted or substituted with a nitro, nitrile, halogen, alkyl, alkoxy, or amino group; and l ≥ 1; m ≥ 1; n ≥ 1; and o ≥ 0; with the restriction that the compound represented by formula I wherein R1-6 = H simultaneously and D also = H is excluded). Organic electroluminescent devices using the compds., especially in hole-injecting, hole-transporting, or light-emitting layers, are also described.

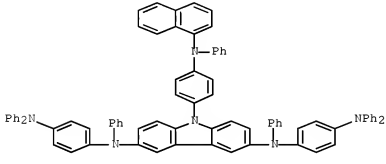
IT 865596-39-0 865596-40-3
RL: DEV (Device component use); USES (Uses)
(Ph carbazole derivs. and organic electroluminescent devices using them)

RN 865596-39-0 CAPLUS

CN 9H-Carbazole-3,6-diamine, N3,N6,9-tris[4-(diphenylamino)phenyl]-N3,N6-diphenyl- (CA INDEX NAME)



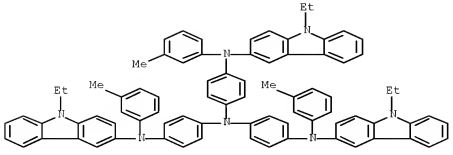
RN 865596-40-3 CAPLUS
CN 9H-Carbazole-3,6-diamine, N3,N6-bis[4-(diphenylamino)phenyl]-9-[4-(1-naphthalenylphenylamino)phenyl]-N3,N6-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:781000 CAPLUS Full-text
DOCUMENT NUMBER: 143:396220
TITLE: Efficient UV-sensitive organic photovoltaic devices using a starburst amine as electron donor
AUTHOR(S): Li, Jiuyan; Lee, Chun-Sing; Lee, Shuittong
CORPORATE SOURCE: Center of Super-Diamond & Advanced Films (COSDAF) and Dept. of Physics and Materials Sciences, City University of Hong Kong, Hong Kong SAR, Peop. Rep. China
SOURCE: Journal of Materials Chemistry (2005), 15(32), 3268-3271
CODEN: JMACEP; ISSN: 0959-9428
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Organic photovoltaic devices using starburst amine PCATA (triphenylamine with carbazole substituents) as the electron donor layer gave a quantum efficiency of up to 21.7% at short-circuit conditions, which is higher than those reported for UV-sensitive organic PV cells.
IT 847158-26-3
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(electron donor layer; UV-sensitive photovoltaic devices using starburst triphenylamine derivative as electron donor layer)
RN 847158-26-3 CAPLUS
CN 1,4-Benzenediamine, N1-(9-ethyl-9H-carbazol-3-yl)-N4,N4-bis[4-[(9-ethyl-9H-

carbazol-3-yl)(3-methylphenyl)amino]phenyl]-N1-(3-methylphenyl)- (CA INDEX NAME)



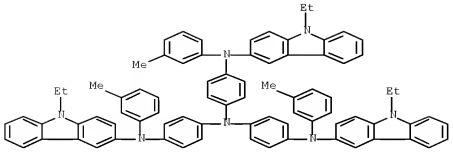
REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:12250 CAPLUS Full-text
DOCUMENT NUMBER: 142:287529
TITLE: Novel Starburst Molecule as a Hole Injecting and Transporting Material for Organic Light-Emitting Devices
AUTHOR(S): Li, Jiuyan; Ma, Chunwah; Tang, Jianxin; Lee, Chun-Sing; Lee, Shuittong
CORPORATE SOURCE: Center of Super-Diamond and Advanced Films (COSDAF) and Department of Physics and Materials Sciences, City University of Hong Kong, Hong Kong, Hong Kong
SOURCE: Chemistry of Materials (2005), 17(3), 615-619
CODEN: CMATEX; ISSN: 0897-4756
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The authors report the synthesis of a novel starburst mol., 4,4',4''-tris(N-3-methylphenyl-N-(9-ethylcarbazyl-3)amino) triphenylamine (PCATA), and its application in organic light-emitting devices (OLEDs). The introduction of PCATA into the standard NPB/Alq3 OLED as the hole injecting and transporting layer dramatically enhanced the device efficiency to 5.7 cd/A and 2.2 lm/W, which are a factor of 2 higher than those of the standard OLED without the PCATA layer. The performance enhancement is attributed to a better balance of hole and electron injection in the PCATA-added OLED.

IT 847158-26-3P
RL: DEV (Device component use); PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation); USES (Uses)
(PCATA; novel starburst mol. as a hole injecting and transporting material for organic light-emitting devices)

RN 847158-26-3 CAPLUS
CN 1,4-Benzenediamine, N1-(9-ethyl-9H-carbazol-3-yl)-N4,N4-bis[4-[(9-ethyl-9H-carbazol-3-yl)(3-methylphenyl)amino]phenyl]-N1-(3-methylphenyl)- (CA INDEX NAME)

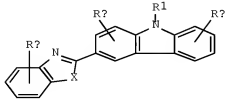


REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

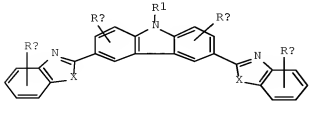
L4 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2003:532189 CAPLUS Full-text
DOCUMENT NUMBER: 139:92577
TITLE: Organic EL device
INVENTOR(S): Lin, Tung-Shen; Yeh, Kun-Tay
PATENT ASSIGNEE(S): Lightronik Technology Inc., Taiwan
SOURCE: U.S. Pat. Appl. Publ., 13 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20030129448	A1	20030710	US 2001-982011	20011019
US 6602619	B2	20030805		
PRIORITY APPLN. INFO.:			US 2001-982011	20011019

OTHER SOURCE(S): MARPAT 139:92577
GI



I

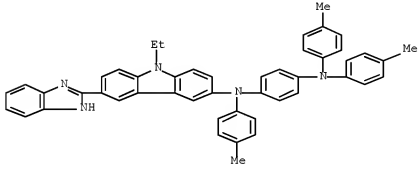


II

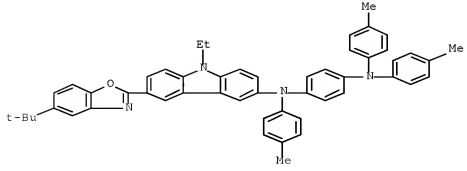
AB An organic EL device which contains an anode, a cathode, and at least one organic thin-file layer including a light emitting layer which contains a compound represented I and II, wherein R1 represents a substituted or unsubstituted alkyl group, a substituted or unsubstituted alkenyl group, a substituted or unsubstituted aromatic hydrocarbon group, a substituted or unsubstituted aromatic heterocyclic group, a substituted or unsubstituted amino group, a substituted or unsubstituted alkoxy group, a substituted or unsubstituted aryloxy group, or a substituted or unsubstituted alkoxycarbonyl group; and Rx is ≥1 functional groups represented by a H atom, halogen atom, nitro group, cyano group, carboxyl group, or R1. Any two Rx groups may form a ring. X represents O atom, N atom and S atom. A blue organic EL device can be provided according to the present invention.

IT 556826-27-8 556826-28-9 556826-29-0
RL: DEV (Device component use); USES (Uses)
(organic EL device with N-substituted carbazole in light-emitting layer)

RN 556826-27-8 CAPLUS
CN 1,4-Benzenediamine, N1-[6-(1H-benzimidazol-2-yl)-9-ethyl-9H-carbazol-3-yl]-N1,N4,N4-tris(4-methylphenyl)- (CA INDEX NAME)

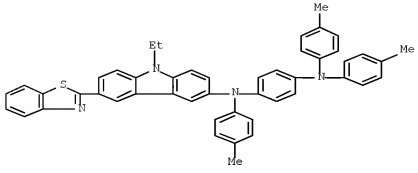


RN 556826-28-9 CAPLUS
CN 1,4-Benzenediamine, N1-[6-[5-(1,1-dimethylethyl)-2-benzoxazolyl]-9-ethyl-9H-carbazol-3-yl]-N1,N4,N4-tris(4-methylphenyl)- (CA INDEX NAME)



RN 556826-29-0 CAPLUS

CN 1,4-Benzenediamine, N1-[6-(2-benzothiazolyl)-9-ethyl-9H-carbazol-3-yl]-N1,N4,N4-tris(4-methylphenyl)- (CA INDEX NAME)



L4 ANSWER 15 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1987:565424 CAPLUS Full-text
DOCUMENT NUMBER: 107:165424
ORIGINAL REFERENCE NO.: 107:26425a,26428a
TITLE: Electrophotographic charge-generating tetrakisazo photoconductors
INVENTOR(S): Matsumoto, Masakazu; Umehara, Masashige; Takiguchi, Takao; Yamashita, Masataka; Ishikawa, Shozo
PATENT ASSIGNEE(S): Canon K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 38 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 6
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
JP 62019875	A	19870128	JP 1985-159402		19850718
JP 04048388	B	19920806			
US 4666810	A	19870519	US 1986-852243		19860415
PRIORITY APPLN. INFO.:			JP 1985-80248	A	19850417
			JP 1985-157699	A	19850717
			JP 1985-157700	A	19850717
			JP 1985-159401	A	19850718
			JP 1985-159402	A	19850718
			JP 1985-159403	A	19850718

AB The tetrakisazo photoconductor has the formula (AN:NZ3)(AN:NZ4)NZ1XZ2N(Z5N:NA)(Z6N:NA) (I; A = coupler residue with a phenolic OH group; Z1-Z6 = arylene, condensed polycyclylene, heterocyclylene; X = NR, O, S, SO2, CO; R = H, alkyl, aryl, etc.). An electrophotog. charge-generating layer may contain a tetrakisazo compound of the formula I (A = coupler residue from 3-hydroxy-2-naphthoic acid anilide; Z1-Z6 = 1,4-phenylene; X = NH) and a poly(vinyl butyral) binder. It provides electrophotog. photoreceptors with improved sensitivity and voltage stability for repeated use.

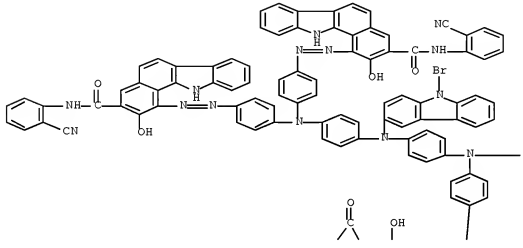
IT 110743-07-2
RL: USES (Uses)
(electrophotog. charge-generating photoconductor, with improved

sensitivity and voltage stability for repeated use)

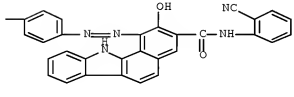
RN 110743-07-2 CAPLUS

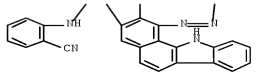
CN 11H-Benzo[a]carbazole-3-carboxamide, 1,1',1'',1'''-[[(9-bromo-9H-carbazol-3-yl)imino]bis[4,1-phenylenenitrilobis(4,1-phenyleneazo)]]tetrakis[N-(2-cyanophenyl)-2-hydroxy- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B




NH
CN
N
N
H